POPULATION PROBLEMS

EDWARD BYRON REUTER, PH.D.

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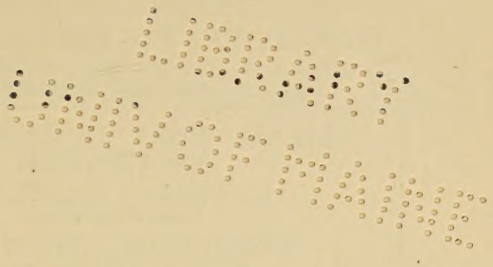

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AUTHOR OF "THE MULATTO IN THE UNITED STATES"

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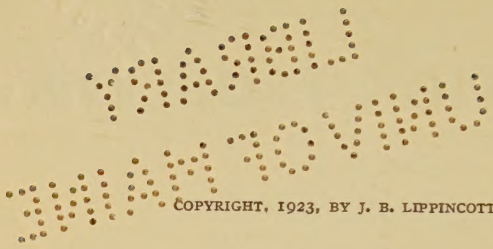

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PREFACE

THE study of population has to do with things which vitally concern the welfare and permanence of social groups. No study can be more fundamentally important or more generally interesting. The number of human units preconditions the type of mutual relationships and consequently the type and degree of cultural possibility. A paucity of numbers renders less likely the appearance of the capable individual whose presence is essential to social progress. A sparsely distributed population, aside from absolute number, decreases the ease and frequency of communication and so hinders the spread and acceptance of cultural invention. Sparse and scanty population renders difficult or impossible functional specialization of the higher order. On the other hand, a redundancy of human life, in relation to the existing state of development of the industrial arts, renders it cheap, brings an intensification of the existence struggle and depresses that struggle a step nearer the brute level, brings a lowered standard of living, makes more easy the exploitation of vital power, intensifies the phenomena of ignorance, disease, pauperism, and the whole train which characterizes a barbarian or semi-civilized type of human social order. Again, the stability of a society and its possibility of orderly evolution into more complex and perfected forms is conditioned by the type of units composing the social structure. All else depends upon the quality of the human life.

Problems of population, real or imaginary, have doubtless engaged the attention of social thinkers since man first began to reflect upon the problems of social life. Nor does one need to speak at great length with intelligent

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men and women of any social class today to realize that the questions centring about the quantity of human life and the quality of its separate units are matters of general interest and grave concern. Poverty and a redundant population are continually associated in current popular opinion. Immigration, especially in its economic and racial aspects, comes in for much discussion. The conventional marriage and sex relationships are in the realm of debated topics, and this is especially true in regard to the question of birth control and voluntary parenthood. A similar interest is manifested in the problems of race relations, the urbanization and industrialization of the population, the status of women, and various other matters more or less directly related to matters of population. Such interest is not the exclusive concern of a limited group; it is widespread and active. Everywhere, among thinking people of all classes, there is an eager desire for information on these subjects of basic human concern. And with this desire for information there goes a healthy skepticism in regard to much of the traditional mummery on such subjects.

The present volume undertakes to state, in a very simple, non-technical way, a few of the related problems of the population. It makes no pretense to completeness and no effort to advance a general population theory. It contains little that is new to the specialist in social science; it contains much that should prove of interest to the beginning student and to the general reader.

No attempt has been made at a full documentation. The literature is readily available and an elaborate citation of authority would serve no useful purpose. The footnote references are more often used to refer the student to discussion from a different point of view or to positions with which the text is not in accord than to cite

authority for the statements of the text. The reading lists at the close of chapters are, for the most part, to secondary sources. They are designed to serve as a point of departure for the student who cares to do farther reading, not as sources of authoritative conclusions. There are no such sources.

To Professor Edward Cary Hayes, the writer is indebted for the invitation to prepare the manuscript for publication in this series.

E. B. R.

The University of Iowa, May, 1923.

EDITOR'S INTRODUCTION

A GROUP of biological units belonging to the human species forms the raw material for society. But such a group does not form a society, as distinguished from an animal herd or an unsocialized throng, unless it has learned to carry on a set of activities which are maintained by virtue of the causal interrelations between the different members of the group. It is such a set of interrelated activities, impossible to have been evolved or to be maintained by individuals in isolation, that constitutes the life of society, and the most essential manifestation of social reality. Such activities include languages, sentiments, beliefs, usages, customs, and institutionalized practices of every sort.

A society, or social group, may not be a population but, like the Socialists or the Roman Catholic Church, may be scattered abroad among the nations, yet truly united by virtue of the activities (opinions, sentiments, and overt practices) that its members have in common, and especially by virtue of the causal relationship between the activities of each and the activities of other members of the group. Every observable unit, social or physical, is made a unit by the interrelation of its parts, and spatial relations are not the only ones that can bind parts into a whole, nor are they the essential bond of a social unit.

But while a social group may not be a population, that is its members may not be in spatial proximity, yet that is the condition most favorable to the development and maintenance of a society. And while a mere population, that is a collection of biological units of the human

species among whom only relations of time and space exist, is not a society but only the raw material for a society, or a condition favorable to the development of a society, yet the character of this raw material, or of this favorable condition, while never the only, and rarely the most determinative factor in molding the distinctive traits of a society, is obviously of great and even incalculable significance.

No one can doubt that the numbers, degree of spatial proximity, and psycho-physical qualities of the individuals who unite to form social groups and who carry on social activities must have a very great influence upon the character of these activities and groups. We do not expect the same character of social activity, and the same rate and kind of social change, in a small population as in a great one that taxes the resources of the land, and in which every individual is affected by thousands or millions of his kind. And we do not expect the same of a population that is densely huddled in cities as from the same number of people widely scattered on the land. And we cannot expect the same of a population in which there is a disproportionate number of the old, or of the very young, or of either sex, or having a large per cent. of those who are nonresistant to this or that disease, or having a large per cent. of feeble-minded, or a low proportion of those who are immune to certain diseases, or having a large per cent. of highly talented persons, as of a population of the reverse description in any of these particulars.

What are the effects of these diversities in population we know very imperfectly. How far or by what means we can modify these diversities of population in directions believed to be desirable we know very imperfectly. Even what diversities exist we by no means wholly know. The popular mind craves cock-sureness as to facts and definite-

ness as to proposals and programs, and is impatient when pet doctrines are challenged. But the intelligent must for the present keep an open mind and be content to proceed with patience and caution in collecting the results of past investigations and in pursuing investigations farther.

In this spirit the author of this book has presented a large amount of information together with his own synthesis and interpretation in a form adapted to hold the interest and stimulate the thought of readers who appreciate the vital significance of the theme.

EDWARD CARY HAYES.

University of Illinois.

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POPULATION PROBLEMS

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CHAPTER I

THE PROBLEM OF POPULATION

The Nature of Population.—The word population is commonly used to designate the total number of persons inhabiting a given territorial area. The area in question may be the entire world or it may be any country, city, or other limited region. The word is also used to describe any specific part of the total inhabitants of a given territory which for any reason it may be deemed profitable to distinguish from the rest. So it is customary to use the term in referring to any group of people somewhat permanently together in time and space.

Populations are formed by natural increase, by compounding, by immigration, or by a combination of two or all of these methods. By natural increase is meant the growth in numbers due to an excess of births over deaths. This is the only method by which there can be any general increase in numbers. Compounding is the union of smaller groups into larger ones, or the conquest and incorporation of a smaller into a larger group. It may increase the population of a particular governmental unit but does not, of course, increase the population of the geographic area. Finally, populations are formed and their composition modified through immigration. This differs from compounding in that it is a peaceful infiltration of individuals and families rather than the forceful incorporation of whole peoples. The formation and growth of population by natural increase makes for a homogeneous

people; the process of compounding as well as the phenomenon of immigration increases the racial, social, and psychological heterogeneity of the group.

It is obvious that very great population differences are likely to exist between any two areas. They will differ in number and density; the age and sex distribution will be unlike; the racial composition will not be the same; the marital status and health conditions will vary; and in other ways any two populations will be found to diverge. Moreover, the population of any given area is in a continual state of change. New members are added through birth and immigration; others are lost by death and removal.

Census and Registration Statistics.—In all modern countries certain facts in regard to the population are known through registration statistics and through periodic census enumerations. The census enumerations give the actual population at stated times, usually at ten-year intervals, and for the intervening years fairly accurate estimates may be made. In addition to facts collected for direct governmental purposes, such as tax levies and apportionment of representatives to legislative bodies, facts are usually collected in regard to age, sex, race, nativity, occupation, economic status, marital condition, education, physical disabilities, and other points of social interest.

Such census data are not in all cases strictly accurate. Some persons are accidentally omitted from the count, some are counted more than once, and other errors of number are made by the enumerators. In regard to the various social, educational, religious, political, and other facts a certain amount of inaccuracy is likewise unavoidable. Some enumerators are ignorant and some are careless. There is also a good deal of hesitancy about giving

certain information and not infrequently a willful misstatement in regard to certain facts. Occupations are frequently confused, physical infirmities are concealed or understated, and many other errors of fact lie hidden in the returns. But in spite of inaccuracies that exist, the statistics, taken as a whole, are sufficiently near the truth to serve most practical purposes.

In addition to the census returns, registration statistics, covering such vital facts as birth, death, sickness, marriage, and divorce, collected under governmental direction, are available for most European countries. Inasmuch as the country's real wealth lies in its people rather than in its material resources, the facts concerning its vital capital are of prime importance. They are useful to the economist, the sociologist, the historian, and, more immediately, they are indispensable in any public health or other social program. The United States has not kept pace with other civilized countries in this respect. There is no nation-wide system of registration, and the record of births and deaths is incomplete and inaccurate. In 1920, about eighty per cent. (82.2) of the population was living within approximately accurate mortality registration areas; in 1919 approximately sixty per cent. (58.6) of the population was living within birth registration areas. But the records vary greatly in different sections of the country: in some of the Northern and Eastern states they extend back for some decades and are coming to be fairly accurate; in the Southern states the records are entirely absent or so defective as to be worthless; in some of the Western states registration is absent or incomplete. Even the best of the American registration statistics are inferior to those of most European countries.

Elements of the Population Problem.—Problems of the population fall into two main divisions. On the one

hand is the question of number and increase; on the other is the question of capacity and social worth of the individuals composing the group. The first has been the more clearly apprehended and the more widely discussed. It may present a practical problem either because of a paucity or because of an excess of numbers.

Under certain conditions the outstanding need of the group may be for an increase in population. The importance of mere numbers as a source of safety in the presence of enemies or for purposes of aggressive warfare and national expansion is so obvious as to have always been unduly stressed. A primitive group in a region of abundance, or a group harassed by enemies, may feel the need of a greater labor or fighting force. It is frequently the outstanding need in a new country with a sparse population and abundant, undeveloped resources where each addition to the population adds to the economic welfare of all. In such situations, practices favorable to an increasing population tend to be incorporated into the customary life and morality of a people.

Under other conditions the acute population problem may be one resulting from excessive numbers. The dependence of the population on the existing food supply forces itself upon the attention, and the thoughtful speculate concerning the impoverishing effects of excessive multiplication. To the primitive group in a niggardly environment and with a chronic scarcity of food a growing population is a social misfortune. So, too, in an old settled country of closed resources and operating under the economic law of diminishing returns, every increase in numbers means a lowered standard of living. In such situations practices operating to counteract the effects of excessive fecundity arise and presently come to be incorporated into the mores of the group. Infanticide was

widespread among primitive groups, in the ancient civilizations, and is still a socially sanctioned institution among certain of the Oriental peoples.

The problem of number, the problem of determining and maintaining the ideal ratio between the number of a people and the area and resources of the land they inhabit in order to secure what was conceived as the general welfare, has quite commonly been conceived to be the whole of the population problem.

But the quantity phase of the problem may be quite insignificant as compared with the question of quality. That there is no virtue in numbers as such was early realized. From the time of Aristotle at least the quality of the people received some attention. In the latter-day thinking, this element of the problem has received more consideration; the emphasis has shifted, temporarily at least, from the economic and national to the social point of view. In its quality aspect the problem is one of determining and securing the population of highest mental capacity and moral worth. Not increase in numbers, national power, and tribal glory, but a higher level of popular capacity and welfare, is the quality element of the problem.

Incidental to the larger problems of number and quality is the minor problem of distribution. In this connection the racial composition is of first-rate importance because of its bearing on the capacity of the group. Industrial distribution and its influence on the standard of living is an element of particular importance in the modern society. Closely related to the industrial distribution and in part the same problem is that presented by the increasing urbanization of the population. The geographic distribution, the age and sex distribution, the marital condition, the physical health and mental alertness,

the class composition, are all matters of importance incidental to one or both of the major elements of the problem.

Efforts to Control Population Growth.—That the numbers of a people, on the one hand, and their psychological characteristics on the other, are determining facts of group welfare are commonplaces of popular thought. Efforts, more or less clearly conscious, to maintain a balance between numbers and means of subsistence, and efforts to control the population type, as well as folk practices operating to the same ends, are common forms of group behavior. A regard for the basic elements of the problem is nearly everywhere present in the group philosophy. But, because of diverse conditions of life in different environments, certain phases of the general problem may assume such special importance as to quite overshadow other considerations.

The essential phase of the problem is not always recognized as such by the group concerned, and success or failure in this often marks the distinction between the success and failure of the group. A clear consciousness of its essential nature saved the Dutch in their centuries of isolation among the South African blacks. A failure to see the essential problem or a negligence in regard to its control marked the failure of the Spanish culture in the tropics as well as that of the French in Canada. The basic problem is not always the one that excites popular concern and consequently is not always the one that receives administrative attention.

Formal efforts designed to control population have always reflected and expressed the prevailing spirit of the times modified by the traditions and prepossessions of the group. In nearly all cases they have been designed to control numbers and usually to stimulate increase. The questions of quality have rather seldom come within the

official view. The means adopted to effect the control have varied widely with the general level of popular and official intelligence. They have in most cases taken the form of control over marriages and penalties for celibacy, on the one hand, and, on the other, the rewarding of fecundity and the penalizing of childlessness, though control through the regulation of immigration and emigration and through officially sanctioned prostitution, abortion, and infanticide all come at certain times and places within the formal and official methods to which resort is had.

The private nature of conception and birth is such that the formal efforts at control have seldom been effective in the way desired. Governmental rewards for fecundity have at times stimulated increase, but not always among the classes whose increase was most desired. Penalties placed on celibacy and childlessness have more often tended to enrich the public treasury than to increase the population. Prostitution, abortion, and infanticide have frequently been resorted to as means of avoiding the burden of child-rearing that a ruling class would impose. Attempts to control the downward trend of the birth rate seem nowhere to have met with much success.

More effective than penalties and rewards has been the control through public opinion and analogous forms of mob law, through fostering a public sentiment that embodies the ruling class ideal. In fact, the only effective control has been through arousing and fostering in the masses the group of sentiments and attitudes conducive to the results desired. Public education is of course always capable of being used in this way; religion is always at hand to lend a divine sanction to the policy adopted; literature and graphic art have everywhere been used to impress the sanctity of the home and the family life when a growing population is the official ideal.

When population control has proved effective it has not always proved wise. Spain is a case in point. She undertook, more systematically than most of the West European nations, to control the type of her population. The Moors, her industrious and prosperous but religiously and racially heterodox citizens, she expelled in the interests of racial and religious unity. The undesigned result was the destruction of the possibility of industrial development. In the interests of religion and the redistribution of financial power, she expelled the Jews with results disastrous to her business and commercial prosperity.[1] And, finally, and again in the interests of a decadent religious orthodoxy, she destroyed her intellectuals and thereby insured herself a long period of religious orthodoxy and intellectual stagnation. Not all official efforts at population control have been as systematically stupid as the efforts of the Spanish, but few have been effective in the way intended.

Procedure not designed primarily to control population may nevertheless affect it for good or ill. The English Poor Law of the seventeenth century is a case in point: a provision intended to provide economic relief resulted in stimulating the pauper birth rate. It is frequently stated that the advance in medical science lowers the average quality of the population by allowing elements to survive and propagate which would earlier have been eliminated. It is perhaps universally recognized among literate people of today that the effect of modern war, whatever may be said of an earlier form, is disastrous to a country's population. The Catholic Church selects from her number the brightest and intellectually best for a

[1] "The ruin of Spain may be chiefly traced to the expulsion or extirpation of her Moorish, Jewish, and heretical subjects." William E. H. Lecky, *History of England in the Eighteenth Century*, 1: 188. See, also, Francis Galton, *Hereditary Genius*, p. 359.

celibate priesthood. So far as she selects wisely, and so far as the priesthood is more than nominally celibate, the policy is unfortunate from the point of view of population. The result is that the best leave no legitimate progeny and, assuming a transmission of native individual and family capacity and level of capability, the body from which the best of each generation are successively abstracted must either deteriorate or at least improve less rapidly than might otherwise be the case.[2]

American Population Policy and Practice.—The United States has had no consistent population policy. The practice has been somewhat of a compromise between different points of view and conflicting interests and, consequently, it has tended to reflect the immediate social situation though somewhat modified by inertia, tradition, official stupidity, and the interests of powerful groups. It has been intelligent only occasionally and by chance.

On the side of numbers, the attitude of the public and the policy of the state have on the whole tended to encourage a rapid increase. During a good part of the national period a rapidly increasing population was in the interest of the national government as well as to the advantage of the large land-holders and the business and industrial groups. The peculiar economic and social situation in the new country was favorable to a rapid increase in numbers. The frontier and the undeveloped natural resources gave an abundant opportunity for an apparently unlimited growth. A high birth rate was a folkway of the Colonial and pioneer groups and the conditions of life in America were suitable for its continuance. So through the larger part of the American period both personal inclination and official policy were favorable to an unrestricted natural increase.

[2] Francis Galton, *Hereditary Genius*, pp. 357ff.

Not only has there been a disposition to encourage a large natural increase, there has also, in general, prevailed a sentiment favorable to a policy of unrestricted immigration. In general, the immigrants have been welcomed and considered a valuable asset because they were believed to increase numbers. Much of the friendly attitude, it is true, was due to indifference and to an easy-going sentimentality which looked upon America as an asylum for the oppressed.

But the frontier, the free land and open resources, with its economic opportunities and advantages, was not unlimited. The country presently began to fill up, and, before the end of the century, had entered upon a period of diminishing returns in the relation of population to resources, and this in spite of the increase of science and the technical arts, which concealed in part the tendency of real wages to fall. As this made itself felt more and more in the falling standard of living, the peculiarly optimistic American attitude toward the virtue of mere bigness has undergone some change. There has grown up a more thoughtful body of opinion favorable to a conservation of resources, and a retardation of population increase in order that something of the population welfare and prosperity that America has enjoyed as compared with the peasantry of Europe may yet be preserved.

On the side of quality, America has had no comprehensive nor consistent policy. The physical welfare of the population has been largely outside the realm of official interest, and movements for the conservation of the public health have received but indifferent support from either state or federal sources. Only a minor fraction of either the physical or mental defectives receive any sort of

remedial treatment; many states have practically no facilities for their care and treatment and in none are the institutions adequate. Education, nominally free and universal, as a matter of fact reaches the poorer masses in only an exceedingly elementary way. Child labor, with its inevitable physical injury and moral degradation and mental retardation, is so widespread as to be a national disgrace.

In regard to immigration there has been an almost complete refusal to exercise in any thoroughgoing way the right of selection. With the exception of certain Oriental peoples, there has been a consistent neglect to exercise any radical control over the racial type of the incomers. Individuals with certain physical and mental diseases or otherwise deemed objectionable have been refused admittance; more recently illiterates have been included among the groups excluded. But no choice has been exercised as among races or nationalities. The importation of Negroes, with the consequent race situation, is an example of the manner in which the economic interests have prevailed in the determination of national policy. Presented with the greatest opportunity in the history of the world to select a population of a superior type, there has been a complete official failure to realize the opportunity.

Need of a Comprehensive Population Policy.—It would appear that few things could be of more fundamental interest and concern to a society than the course of its own development. To make a maximum contribution to human progress and thereby to occupy an increasingly important place in the history of culture would seem to be a goal toward which an intelligent people should strive. Any such national ideal emphasizes the need for a comprehensive and consistent population policy as one

of the main factors in giving intelligent direction to the course of progress.

In the past, social interference in the trend of population growth and development has been almost wholly negative. A few minor restrictions have been placed on immigration and there have been a number of laws and rulings directed against movements designed to make parenthood voluntary. But these have not been parts of a comprehensive national policy, nor particularly wise as isolated legislative acts: immigration has been treated chiefly as an economic problem; birth control has been treated as a moral problem. The significance of neither has been at all generally understood. There have been laws against racial intermarriage and some restrictions have been placed upon the marriage and propagation of certain types of defectives. But there has been no governmental program designed to secure positive results of a definite sort. The negative and indifferent policy of the country might, with great gain to the population welfare, give way to a national policy designed to control the number of the people and the quality of the stock.

If the population of the country is increasing more rapidly than is consistent with an increasingly rapid rise in the standard of living, the fact should be known and an intelligent policy of restrictive procedure formulated. If there exists a condition of underpopulation, it is perhaps equally important that the necessary steps be taken to bring the numbers up to the point of maximum efficiency. The control of numbers involves the matter of those born into the society as well as those admitted as immigrants. The latter problem is directly amenable to control through legislative enactment and diplomatic agreement. The control of births is not so readily dealt with but seems not to be beyond social control.

Moreover, the contemplation of any steps designed to control numbers, whether by way of increase or limitation, immediately raises the question of quality; the human units are of very unequal worth. And this problem is not alone one of whom is to be selected; there is also a problem as to the means by which the selection is to be made. The control of the quality of the population, like the control of numbers, involves both the question of immigration and the question of the differential birth rate. An adequate policy would provide for the birth or entry of those whom it was desirable to have come or to have born. At its minimum, this certainly demands an adequate policy of segregation of hereditary defectives, and a selection among those admitted from abroad on a more reputable basis than that of their previous educational opportunity.

Any comprehensive population policy thus involves the whole question of the kind of a society it is proposed to develop in America. Selection will inevitably affect by so much the mental and physical type of the country's population, alter its racial status, and, consequently, its political, industrial, and social life. This is a matter freighted with such boundless consequences for the future of humanity that it should be of universal interest; and an adequate policy, designed to make the population progressively approximate the type of society that social thought deems most desirable to produce, should be a chief concern of enlightened government.

Purpose of this Volume.—It is the limited and modest purpose of the present volume to state in a brief and simple way certain facts and considerations which fall within the scope of a general population policy.

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CHAPTER II

THE COMPOSITION AND DISTRIBUTION OF POPULATIONS

Introductory Statement.—The phrase distribution of population is widely used to include not alone the matter of geographic location, but as well such items as occupational placement and urban and rural residence. The term composition is used to cover such phenomena as the ethnic make-up, the sex ratio, the age condition, the class divisions, and other internal facts of population.

The facts of composition and distribution are in general subordinate to questions of quality and number, though they may be approached independently and from various points of view according to the interests of the observer and the exigencies of the problem in hand. The matter of political allegiance, for example, may be made the subject of investigation quite independent of other considerations. So, too, the population of the whole or any part of the world may be classified as to composition on the basis of religious beliefs or of languages spoken; according to age or sex; on the basis of marital condition, educational attainment, or economic status; or in any other way that may appear to have value for the problems under consideration. The present chapter is designed to give brief consideration to certain distribution facts of particular significance for population welfare.

The Number and Distribution of Peoples.—The total population of the earth at the present time is generally given as approximately one billion seven hundred million. This figure is of course an estimate. No actual enumera-

tion has been made of the uncivilized peoples and the census reports of certain other countries are scarcely more than rough approximations. An accurate count of the peoples of the world might, therefore, show a very considerable error in the estimated number.

This population, whatever its exact number, is very unevenly distributed over the earth. The total land area, exclusive of the polar regions, is something more than fifty million square miles. But the habitable part of the globe is very much less than its total land area. The land surface includes desert and mountain regions as well as arctic and torrid areas, either uninhabited or very sparsely populated. Moreover, the habitable parts of the earth are very unequally populated. Not above one-fifteenth of the habitable regions of the world is under cultivation. Belgium is perhaps the only country of the modern world cultivating so much as one-half of its total area. Canada and Asiatic Russia stand at the opposite extreme. These are regions of immense fertility, but in neither case with so much as one one-hundredth of the total acreage under cultivation.

The tabulation following shows the area and the population in round numbers and the number of inhabitants per square mile for the continental divisions.

Area and Population of the Earth by Continental Divisions.

Continental Divisions	Area in Square Miles	Population	Density
Asia	17,052,000	890,000,000	52
Europe	3,821,000	475,000,000	125
North America	8,040,000	145,000,000	18
South America	7,018,000	61,000,000	9
Africa	11,605,000	140,000,000	12
Australia and Oceania	3,457,000	9,000,000	3
Polar Regions	4,892,000	.....	.....

The present population of the earth is rather highly concentrated in a small group of countries and within these countries it is largely centred in specially favored regions.

The geographic distribution of the population of the United States is not particularly atypical. The centre of population in 1920 was 8.3 miles southeast of Spencer, Indiana, a point 647 miles east and 51 miles south of the centre of area, which lies in the northern part of the state of Kansas. At the time of the first federal census, the centre of population was 23 miles east of the city of Baltimore. In the 130 years succeeding, it has moved westward a distance of 567 miles, a yearly average of about 4.4 miles. During the entire period there has been practically no change in a north or south direction: the point has remained close to the 39th parallel. The median point of the population, that is, the junction point of the line dividing the population equally east and west with the line dividing it equally north and south, in 1920 lay 121 miles to the northeast of the centre of population.

The average density of the whole country in 1920 was 35.5 per square mile. This average density is small as compared with some of the European countries; the density of France is about 5.5 times that of the United States; that of Belgium is nearly 20 times as great. But the density of the population of the United States varies from 566.4 in the state of Rhode Island to .7 in the state of Nevada. Approximately two-fifths of the population live within a region comprising about one-fourteenth of the total area. Stated in another way, the total acreage of the United States is sufficient to allow each inhabitant a farm of 18 acres. But the land area of Rhode Island, if equally divided among the inhabitants of that state, would allow only 1.1 acres to each person. The land area of Nevada,

similarly divided, would give each inhabitant a farm of 908 acres.

Race and Race Distribution.—The distribution according to race is difficult and at best unsatisfactory. Pure racial stocks, in any restricted use of the term race, can scarcely be said to exist in the present-day world. Consequently, any classification turns upon the definition of terms, and the popular inclusion of certain peoples in, or their exclusion from, certain racial categories is often more because of cultural status than because of racial origin.

A rough classification of the population of the earth is the popular five-fold division on the basis of skin coloration. On this basis the Indo-Germanic, or Aryan, located chiefly in Europe, America, Persia, India, and Australia, number about 821,000,000 and the Semitic, located in Africa, Arabia, and elsewhere, number about 74,500,000, making a white total of 895,000,000. The Mongolian or Turanian, the yellow and brown peoples of Asia, number about 645,000,000. The Negro and Bantu, located for the most part in Africa, number about 139,000,000. The so-called brown peoples, Malay and Polynesian, located in Australasia, number about 39,500,000. The American Indians of the Western Hemisphere, including the half-breeds as well as the red men, number about 28,000,000.[1]

Prior to about the beginning of the nineteenth century the white population of the world was stationary or slowly increasing. The increase of the food supply through

[1] By confusing the concepts of race and culture or by neglecting to define the fundamental concepts, it is possible to get a very different distribution. For example, a recent pseudo-scientific book by Lathrop Stoddard, *The Rising Tide of Color*, gives the racial distribution of the world in millions as follows: white, 550; yellow, 500; brown, 450; black, 150; and red, 40.

invention and discovery and the control of the death rate as a result of advance in medical science and sanitation made possible a very rapid increase. The remarkable growth in white population made possible the colonization and political control of a large part of the world. But this era of white expansion is apparently approaching an end: the birth rate is falling rapidly and in some regions the white population is already practically stationary.

But in certain other racial groups there is an increasing rate of natural increase. These groups have bred very close to their means of subsistence and the populations have been limited by a variety of external checks: famine, disease, tribal wars, and the like have caused much wastage of life, and the populations have increased slowly or remained stationary during the period of rapid white increase.

But the white political dominion of the world has made possible a great increase of the other races. White control has meant the checking of tribal wars, the reduction of religious sacrifices and superstitious killings, the control of the grosser forms of famine through improved communication and transportation, and a reduction of the disease death rate by the introduction of medical and sanitary science. This lowering of the excessive death rate has made possible a rapid growth of many groups whose numbers had long remained stationary.

The lands occupied by many of these rapidly increasing racial groups are overcrowded; in some cases the pressure of population is acute. China, Japan, India, Egypt, Java, are fully occupied in the present state of science and the industrial arts. The possibilities of continued increase depend upon the rise of machine industry or upon opportunities for territorial expansion. Owing to the decreasing rate of increase of the white race and the

increasing rate of increase of other populations, the twentieth century is likely to see a rather widespread territorial readjustment of the races. It seems probable that certain countries are destined to undergo a present change in ethnic character, that there will be a modification in the world's racial equilibrium, and possible shrinkage in the present white political domains.

Race and Nationality Composition of the U. S.—The present population of the United States is practically nine-tenths white. The term white is used in the American statistics to refer to persons understood to be pure-blooded whites. Persons of mixed blood are classified according to the non-white strain, and in cases where the non-white strain is also mixed, the classification as to racial status is according to the community in which the person resides. Negro-white intermixtures are classed as Negroes; Negro-Indian mixtures are classed as Negro or Indian, according to the racial status of the community in which the person resides. The classification, therefore, rather understates the proportion of white blood, and somewhat overstates the proportion of blood of the other races. A large percentage of the Negro population and of the Indian population contains a considerable strain of white blood. So, too, the classification tends to overstate the amount of Indian as compared with Negro blood. Many of the Indian tribes are very much mixed by their adoption of, and intermixture with, the Negroes. Some of the Indian tribes contain almost no persons of pure-blood Indian stock.

The classification, the number, and the per cent. distribution of the population of continental United States, by races, according to the enumeration of 1920 are shown in the accompanying table.

RACIAL DISTRIBUTION OF THE POPULATION OF CONTINENTAL UNITED STATES, 1920.

Color or Race	Number	Per cent. Distribution
White	94,820,915	89.7
Negro	10,463,131	9.9
Indian	244,437	0.2
Chinese	61,639	0.1
Japanese	111,010	0.1
Filipino and others, less than one-tenth of one per cent.	5,603	

This racial distribution has undergone considerable change during the past century. There has been a constant tendency to approach more nearly to a white type, though there has been a continual increase in the number of other racial types. The divergent races, with the single exception of the Negro, have always been a numerically insignificant item in the population. The Negro population has increased from decade to decade with rapidity, but the increase has been less rapid than that of the whites and the percentage of Negroes in the population has fallen from decade to decade.

POPULATION OF THE UNITED STATES EACH CENSUS YEAR, 1790-1920.

Census Year	Total Population	Per cent.		Indian *et al.*	Per cent. Increase	
		White	Negro		White	Negro
1790	3,929,214	80.7	19.3	.....	.....	.....
1800	5,308,483	81.1	18.9	.....	35.8	32.3
1810	7,239,881	81.0	19.0	.....	36.1	37.5
1820	9,638,453	81.6	18.4	.....	34.2	28.6
1830	12,866,020	81.9	18.1	.....	33.9	31.4
1840	17,069,453	83.2	16.8	.....	34.7	23.4
1850	23,191,876	84.3	15.7	.....	37.7	26.6
1860	31,443,321	85.6	14.1	0.3	37.7	22.1
1870	38,558,371	87.1	12.7	0.2	24.8	9.9
1880	50,155,783	86.5	13.1	0.3	29.2	34.9
1890	62,947,714	87.5	11.9	0.6	27.0	13.8
1900	75,994,575	87.9	11.6	0.5	21.2	18.0
1910	91,972,266	88.9	10.7	0.4	22.3	11.2
1920	105,710,620	89.7	9.9	1.4	16.0	6.5

The change in the proportion of the races in the population of the United States is shown in the accompanying table.

The practice of the Census Board is to divide the white population of the country into classes according as one or both or neither of the parents is born within the United States. This gives a four-fold classification into (*a*) native of native parentage, (*b*) native of foreign parentage, (*c*) native of mixed parentage, and (*d*) foreign-born.

The accompanying table gives a classification of the white population according to the nativity of the parents for the three enumerations of 1900, 1910, and 1920.

Class of Population	Number			Per cent. of Total		
	1900	1910	1920	1900	1910	1920
Native white, total...	56,595,379	68,386,412	81,108,161	74.5	74.4	76.7
Native parentage	40,949,362	49,488,575	58,421,957	53.9	53.8	55.3
Foreign parentage....	10,632,280	12,916,311	15,694,539	14.0	14.0	14.8
Mixed parentage.....	5,013,737	5,981,526	6,991,665	6.6	6.5	6.6
Foreign-born white...	10,213,817	13,345,545	13,712,754	13.4	14.5	13.0

The foreign-born population of the United States is of a very diverse origin, but the great majority come from a small number of European states. The countries furnishing five per cent. or more of the total are given in the following table:

COUNTRY OF BIRTH OF THE FOREIGN-BORN WHITE POPULATION OF THE UNITED STATES, 1920

Country of Birth	Per cent. Distribution
Germany	12.3
Italy	11.7
Russia	11.2
Poland	8.3
Ireland	7.6
England	5.9

Distribution of Race and Nationality in the U. S.— As previously pointed out, the centre of gravity of the total population lies to the east and south of the centre of area. But the population, looked at from the point of view of racial distribution, presents a different picture.

The American Indians, numbering in 1920 nearly one-quarter of a million, are for the most part west of the Mississippi River. Eight states, all except Wisconsin, lying west of the Mississippi River, contain nearly three-fourths of the total Indian population. In this respect the state of Oklahoma stands first with over one-fourth of all the Indians in the United States. Arizona comes second, followed in order by New Mexico, South Dakota, California, Washington, Montana, and Wisconsin. These are the only states having an Indian population of ten thousand persons. In nine of the states the Indian population formed one per cent., or more, of the total population. In this respect Arizona stands first with one-seventh of the population of Indian blood. Nevada is second with about one-fifteenth, and in order follow New Mexico, Oklahoma, South Dakota, Montana, North Dakota, and Wyoming.[2]

The Chinese, numbering nearly 62,000 in 1920, are numerous in only a few states. Almost three-sevenths of the total number are in the state of California, and over one-half of the total are in the three Pacific Coast states of Washington, Oregon, and California. Only nine states have as many as one thousand Chinese in their populations. These states and the number of Chinese in the population of each are shown in the accompanying tabulation.

[2] *Indian Population in the United States and Alaska.* 1910. Bureau of the Census. 1915.

STATES HAVING A CHINESE POPULATION OF 1,000 OR MORE IN 1920

State	Chinese Population
California	28,812
New York	5,793
Oregon	3,090
Illinois	2,774
Massachusetts	2,544
Washington	2,363
Pennsylvania	1,829
Arizona	1,137
New Jersey	1,190

The Japanese, with a total in 1920 of approximately 111,000, have a distribution very similar to that of the Chinese. Approximately seven-elevenths are in the state of California and nearly nine-elevenths in the two Pacific Coast states of California and Washington. The nine states having a Japanese population of one thousand or more are shown in the following table:

STATES HAVING A JAPANESE POPULATION OF 1,000 OR MORE IN 1920

State	Japanese Population
California	71,952
Washington	17,387
Oregon	4,151
Utah	2,936
New York	2,686
Colorado	2,464
Idaho	1,569
Wyoming	1,194
Montana	1,074

The other racial groups, with the exception of the Negro, are not of numerical consequence except locally. California and Washington are the only states where the total of "all other racial groups" amounts to as many as one thousand. In California the number is 5263; in Washington, 1150. New York with 735 is the next state in order.

The Negroes are rather heavily massed in the Southern sections, and the tendency of this part of the population is toward a yet greater concentration. In 1790 the centre

of Negro population was in Virginia near the town of Petersburg. In the periods following it has moved in a south and west direction, a distance of nearly five hundred miles, to its present location near the northeastern part of Alabama. Approximately 90 per cent. of the total Negro population of the country live in the South Atlantic and South Central states, and some 80 per cent. in the states comprised in the so-called Black Belt. The distribution by geographic divisions is shown in the accompanying tabulation.

NEGRO POPULATION BY GEOGRAPHIC DIVISIONS, 1920

Division	Number of Negroes
United States, total	10,463,131
New England	79,051
Middle Atlantic	600,183
East North Central	514,554
West North Central	278,521
South Atlantic	4,325,120
East South Central	2,523,532
West South Central	2,063,579
Mountain	30,801
Pacific	47,790

The real concentration of the Negro population is better seen, however, when smaller areas are considered and when the proportion of Negroes in the population is observed. The percentage of Negroes in the population of the group of states composing the Black Belt is shown in the following table:

PERCENTAGE OF NEGROES IN THE TOTAL POPULATION OF THE BLACK BELT STATES, 1920

State	Per cent. of Population, Negro
Alabama	38.4
Arkansas	27.0
Florida	34.0
Georgia	41.7
Louisiana	38.9
Mississippi	52.2
North Carolina	29.8
South Carolina	51.4
Tennessee	19.3
Texas	15.9
Virginia	29.9

In two of the states the Negroes comprise more than one-half the total population. But the actual massing of the Negroes in certain regions is greater than the statistics by states indicate. In 1920 there were 220 counties in which the Negro population was equal to or exceeded the white population in number. The three counties having the highest proportion of Negroes in the total population, with the number of white and Negro inhabitants and the per cent. of the population Negro, are given in the table following:

COUNTIES WITH THE HIGHEST PERCENTAGE OF NEGROES IN THE POPULATION, 1920.

County	White Population	Negro Population	Per cent. Negro
Issaquena, Mississippi	703	6,915	90.7
Tunica, Mississippi	2,179	18,207	89.0
Tensas, Louisiana	1,769	12,085	85.3

Certain cities also have a high percentage of Negroes. In 1910 there were four cities of over 25,000 with one-half or more of the population Negro. The distribution is shown in the following table:

CITIES WITH ONE-HALF OR MORE OF THE POPULATION NEGRO, 1910.

City	White Population	Negro Population	Per cent. Negro
Jacksonville, Florida	28,329	29,293	50.8
Montgomery, Alabama	18,802	19,322	50.6
Charleston, South Carolina	27,764	31,052	52.8
Savannah, Georgia	31,784	33,246	51.1

The Sex Composition of Populations.—Normally there is virtual equality in the number of the sexes. At the time of conception there appears to be a rather high degree of masculinity. This, however, is largely overcome by the

higher pre-natal death rate of the male fœtus so that at the time of birth the degree of masculinity is slight. At birth the ratio of the sexes is approximately 105 males to each 100 females. The excess of males ranges, however, from 20 to 60 per 1000. But during infancy the death rate of male babies is in excess of that of the female and a numerical equilibrium is usually established in early youth. The greater hazards of life in boyhood and maturity lead to a farther reduction in the masculinity. Above the age of forty-five years, the number of women exceeds the number of men. The sex ratio of about one-half the population of the world in 1910 was 100.9 males to each 100 females.

There are numerous forces that tend at certain times and places to disturb the normal sex ratio. Chief among these is the phenomenon of migration. By drawing more heavily on one sex than on the other, migration disturbs the sex ratio of the country losing the population and of the country receiving the migrants. Usually in long distance migration the males are very greatly in excess. In short distance migration and in the cityward movement the women are normally in excess, thus making for an excess of women in the urban and of men in the rural regions.

Sex Composition in the U. S.—In the population of the United States there is an excess of males. This is true of all classes with the exception of the Negro, and in some of the classes the degree of masculinity is excessive. The excess of women in the Negro group is due to the excess number of women in the mulatto division of the race, which, in turn, seems largely to be due to the fact that light-colored mulatto men more often than the women change their racial status and pass as white men.[3]

[3] E. B. Reuter, "Sex Distribution in the Negro and Mulatto Population of the United States," *Jour. Applied Sociol.* 6 (1923), 130–138.

The proportion of the sexes in the different racial classes of the population is shown in the following table:

SEX RATIOS IN THE POPULATION OF CONTINENTAL UNITED STATES

Color or Race	Males per 100 Females
All classes	104.0
White	104.4
Negro	99.2
Indian	104.8
Chinese	695.5
Japanese	189.8
Filipino	1,410.2
Korean	306.6

There are also considerable differences in the sex ratio in different sections of the country. In the total population the males exceed the females by a total of 2,090,242. The excess of males is true of each of the major divisions of the country with the exception of the New England division, where there is an excess of approximately 46,000 women. The disturbance of the normal sex ratio is very much greater in some sections than in others, as may be seen from the following summary:

SEX RATIOS IN THE POPULATION OF CONTINENTAL UNITED STATES BY MAJOR DIVISIONS, 1920

Geographic Division	Males to 100 Females
United States, total	104.0
New England	98.5
Middle Atlantic	101.4
East North Central	105.7
West North Central	106.1
South Atlantic	101.2
East South Central	101.2
West South Central	105.8
Mountain	115.7
Pacific	113.9

The unequal distribution of the sexes is better seen in smaller areas. In Massachusetts the females exceed the males in the ratio of 100 to 96.8; in Rhode Island the ratio is as 100 to 96.9. There is also an excess of women

in the states of Connecticut, New York, North Carolina, Georgia, and Alabama, and in the District of Columbia. The other states have an excess of males in the population. In some cases this is very pronounced. In Nevada there are 148.4 males to each 100 females; in Wyoming the ratio is as 131.3 to 100; in Idaho it is as 117.1 to 100; and in South Dakota it is as 137.2 to 100. In the Alaska white population there are 282.1 men to each 100 women.

In accordance with the principle stated above, the sex composition of the immigrant groups shows a high degree of masculinity. Of those admitted in 1920, the ratio of males to females was as 126.3 to 100.[4] The excess of men was very great among the Chinese, Italians, Portuguese, Rumanians, Scandinavians, Spanish, and the Dutch and Flemish. In some groups there was an excess of females. This was notably the case for the Croatian and Slovenian, Finnish, Hebrew, Irish, Japanese, Magyar, Polish, and Slovak.

The number of females in the incoming immigrant groups has, however, been unusually large in the period since the war. In the whole foreign-born population the degree of masculinity is therefore much higher than is indicated by the figures just given for recent immigration. The ratio of males to females in the foreign-born white population was, in 1900, 143.1 to 100; in 1910, it was 159.7 to 100; and in 1920, it was 141.8 to 100.

The amount of masculinity is greater in the rural than in the urban populations. This is explained by the fact that the opportunities for employment are less for women than for men in the rural districts. The sex distribution in the urban and the rural districts of the United States in 1920 is shown, for certain classes of the population, in the accompanying table.

[4] *Annual Report of the Commissioner General of Immigration*, 1921, p. 34.

SEX DISTRIBUTION OF THE URBAN AND RURAL POPULATIONS OF THE UNITED STATES, 1920

Classes of the Population	Males to 100 Females	
	Urban	Rural
Total	100.4	108.0
White	100.5	109.0
Negro	95.4	101.2
Native white, total	96.9	106.7
Native parentage	98.6	106.3
Foreign parentage	95.0	110.4
Mixed parentage	92.5	107.2
Foreign-born white	115.9	141.8
Indian, and all others	276.9	126.6

The Age Distribution of Populations.—The age distribution is perhaps the most important division of a population. This distribution is regulated in normal circumstances by the birth and mortality rates.

In the populations of European peoples about one-third of the numbers, roughly speaking, are under the age of fifteen years; about one-half are of ages from 15 to 50; and about one-sixth older than fifty years. A common four-fold division of the population into age groups is that which gives the number below 15; the number between 15 and 40; the number between 40 and 60; and the number over 60. The following tabulation illustrates the differences between several countries and the distribution for certain age groups:

AGE DISTRIBUTION OF SELECTED COUNTRIES

Country	Census Year	Per 1,000 Population			
		Under 15	15 to 40	40 to 60	Over 60
England	1901	324	423	179	74
Germany	1900	348	395	179	78
United States	1900	334	422	169	75
France	1901	261	389	226	124
Ireland	1901	304	407	180	109
Sweden	1900	324	366	191	119
Italy	1901	341	366	196	97
Servia	1900	419	395	142	44

Age Distribution in the U. S.—Owing to various disturbing factors, particularly immigration and internal migration, there are wide differences in the age distribu-

tion in the various parts of the population of the United States. The distribution for all classes of the population in 1920 is shown in the following tabulation:

AGE DISTRIBUTION OF THE POPULATION OF THE UNITED STATES, 1920

Age Groups	Total
Under 5 years	10.9
5 to 9 years	10.8
10 to 14 years	10.1
15 to 19 years	8.9
20 to 44 years	38.4
45 years and over	20.8

There are also important differences in the age distribution of the different racial groups in the population and between that of the native white population and the population of foreign origin. The following table shows the distribution of the Negroes and the foreign-born white population:

AGE DISTRIBUTION OF THE NEGRO POPULATION AND FOREIGN-BORN WHITE POPULATION OF THE UNITED STATES, 1920

Age Groups	Negro	Foreign-born White
Under 5 years	10.9	0.3
5 to 9 years	12.1	1.2
10 to 14 years	11.8	2.4
15 to 19 years	10.4	3.9
20 to 44 years	38.2	52.5
45 years and over	16.4	39.5

There are some significant differences in the age distribution in different sections of the country. In general the newer sections of the country show an excess of persons of middle age. This fact appears in the following table, though the distribution is in part concealed by the fact that the older sections of the country have a larger per cent. of the population urban and also contain a larger per cent. of immigrant people. Both these facts tend to raise the per cent. of persons of middle age.

AGE DISTRIBUTION OF THE POPULATION OF THE UNITED STATES BY MAJOR GEOGRAPHIC DIVISIONS, 1920.

	New England	Middle Atlantic	East North Central	West North Central	South Atlantic	East South Central	West South Central	Mountain	Pacific
Under 5 years	10.2	10.6	10.3	10.7	12.4	12.2	11.9	11.9	8.5
5 to 9 years	9.5	10.1	9.9	10.5	12.5	12.7	12.6	11.2	8.7
10 to 14 years	8.8	9.2	9.1	10.0	11.7	12.2	12.0	10.1	8.0
15 to 19 years	8.0	8.2	8.3	9.1	10.1	10.2	10.4	8.5	7.4
20 to 44 years	38.9	40.2	39.6	37.9	35.7	34.6	36.6	39.1	42.0
45 years and over	24.6	21.7	22.5	21.7	17.6	17.9	16.3	18.8	25.1

The age distribution varies considerably between the urban and the rural divisions of the population. There are also marked differences in the various racial groups in the urban and the rural areas. The following table compares the urban and rural age distribution in the total population and in the Negro and foreign-born white population:

URBAN AND RURAL AGE DISTRIBUTION FOR THE TOTAL POPULATION OF THE UNITED STATES AND FOR THE NEGROES AND FOREIGN-BORN WHITES, 1920.

Age Groups	Total all Classes		Foreign-born Whites		Negroes	
	Urban	Rural	Urban	Rural	Urban	Rural
Under 5 years	9.7	12.3	0.3	0.5	7.5	12.7
5 to 9 years	9.3	12.3	1.2	1.5	8.2	14.1
10 to 14 years	8.6	11.6	2.4	2.6	8.2	13.7
15 to 19 years	8.2	9.7	4.0	3.4	8.7	11.2
20 to 44 years	42.7	33.8	55.0	44.6	49.5	32.4
45 years and over	21.3	20.2	37.0	47.3	17.5	15.8

Illiteracy in the U. S.—It is of course possible to distribute the population of a country in a variety of other ways. The marital condition is a matter of importance from certain points of view. The religious profession of the inhabitants of a country has some social significance. The spoken language may be a matter of importance.

These and other distribution facts will receive some incidental attention in connection with other problems.

The question of literacy—the ability to read and write—however, deserves some attention in the present connection. The amount of illiteracy in the United States is so high as to be a national disgrace. Some six per cent. of the population over ten years of age were in 1920 classed as illiterate. The amount varies widely with different sections of the country and with different classes in the population. It is lowest in the white urban population of foreign or mixed parentage, and it is highest in the Negro population of the rural regions. In general the amount of illiteracy has shown some tendency to decline in all groups during the past decade, and the fact that it is somewhat less in the younger age groups indicates that some progress is being made.

The following table summarizes certain of the facts in regard to the distribution of the population from the point of view of literacy.

ILLITERACY IN THE POPULATION OF THE UNITED STATES AND IN THE URBAN AND RURAL POPULATION FOR SELECTED POPULATION CLASSES, 1920

Age Groups	All Classes	Native Parentage	Foreign or Mixed Parentage	Foreign-born	Negro
The United States					
10 years and over	6.0	2.5	0.8	13.1	22.9
10 to 15 years	2.3	1.1	0.6	4.4	11.5
16 to 20 years	3.3	1.6	0.6	6.6	15.1
21 years and over	7.1	3.0	0.9	13.7	27.4
The Urban Population					
10 years and over	4.4	0.8	0.5	13.0	13.4
10 to 15 years	0.5	0.3	0.2	1.8	2.8
16 to 20 years	1.3	0.5	0.4	4.7	6.1
21 years and over	5.5	1.0	0.6	13.8	16.0
The Rural Population					
10 years and over	7.7	3.8	1.4	13.3	28.5
10 to 15 years	3.8	1.6	1.2	11.9	14.2
16 to 20 years	5.2	2.3	1.3	13.5	19.0
21 years and over	9.1	4.8	1.5	13.3	35.7

Urbanization of the Population.—In the United States the trend toward the urbanization of the population has been conspicuous for over a century. On the basis of the original classification, which classed places of 8000 or more inhabitants as cities and the remainder of the country as rural, the per cent. of the population classed as urban increased from 3.3 per cent. in 1790 to 43.8 per cent. in 1920. The number of communities qualifying as urban under this definition increased from 6 in 1790 to 924 in 1920. This growth of the urban population is shown in the accompanying table.

POPULATION IN PLACES OF 8,000 INHABITANTS OR MORE, 1720–1920

Census Year	Total Population	Urban Population	Number of Places	Per cent. of Total Population
1790	3,929,214	131,472	6	3.3
1800	5,308,483	210,873	6	4.0
1810	7,239,881	356,920	11	4.9
1820	9,638,453	475,135	13	4.9
1830	12,866,020	864,509	26	6.7
1840	17,069,453	1,453,994	44	8.5
1850	23,191,876	2,897,586	85	12.5
1860	31,443,321	5,072,256	141	16.1
1870	38,558,371	8,071,875	266	20.9
1880	50,155,783	11,365,698	285	22.7
1890	62,947,714	18,244,239	445	29.0
1900	75,994,575	25,018,335	547	32.9
1910	91,972,266	35,570,334	768	38.7
1920	105,710,620	46,307,640	924	43.8

The present practice of the census bureau is to classify as urban the cities and incorporated places having 2500 inhabitants or more. Even this rather understates the urban population, inasmuch as some 8.5 per cent. of the population reside in incorporated places having fewer than 2500 inhabitants. Including such places as urban, 59.9 per cent. of the population is urban. On the basis of the present classification, the population residing in urban territory cannot be given for periods prior to 1880. The following table gives the proportion of the country's total

population living in urban and rural territory at each of the last five enumerations.

URBAN AND RURAL POPULATION OF THE UNITED STATES, 1880–1920

Census Year	Per cent. Urban	Per cent. Rural
1880	28.6	71.4
1890	35.4	64.6
1900	40.0	60.0
1910	45.8	54.2
1920	51.4	48.6

The urban population of the United States is largely centred in the North and East states. More than three-tenths of the total urban population of the country is in the Middle Atlantic division of states, and more than half of the total urban population is in this division and the East North Central. The following table gives the per cent. distribution for the various census divisions:

URBAN AND RURAL POPULATION OF THE UNITED STATES, 1920

Divisions	Per cent. Urban	Percentage distribution Urban	Rural
United States	51.4	100.0	100.0
New England	79.2	10.8	3.0
Middle Atlantic	74.9	30.7	10.9
East North Central	60.8	24.0	16.4
West North Central	37.7	8.7	15.2
South Atlantic	31.0	8.0	18.8
East South Central	22.4	3.7	13.4
West South Central	29.0	5.5	14.1
Mountain	36.4	2.2	4.1
Pacific	64.4	6.4	4.1

The more rapid increase of the urban centres has been in part due to migration from the villages and the open country. The large immigration to the United States has also contributed disproportionately to the urban growth. The incorporation of smaller cities is also an item of minor importance. Also the growth of population by natural increase, even if uniform between urban and rural communities, would cause a constantly increasing

proportion of the population to be classed as urban. Communities classed as rural at one enumeration would, as a result of a growth of population, contain at later enumerations the 2500 inhabitants necessary to put them in the class of urban centres. In a similar way the smaller cities would presently, as a result of natural increase, pass into the class of cities of the next larger size. So the proportion of rural population would decrease from one enumeration period to the next simply as a result of a uniform natural growth.

But the rate of growth of urban communities has been far greater than the rate of growth of the rural communities. The recorded increase in the proportion of city populations is mainly due not to the causes mentioned in the latter part of the preceding paragraph, but to the actual differences in rates of growth. The territory that in 1910 was already urban showed a per cent. increase in the following decade of 34.8; that classed as rural in 1910 showed a per cent. increase of 11.2 during the same period. The rate of population increase of the territory classed as urban in 1920 for the decade ending in that year was nearly five times as great as that of the territory classed as rural in 1920.

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CHAPTER III

PRE-MALTHUSIAN DOCTRINES OF POPULATION

Population Practices of Primitive Man.—The population practices of primitive man were largely in the realm of instinctive acts. His conceptions on the subject were necessarily vague. The existence of a causal relation between the reproductive act and its biological consequences was, for very long periods, not realized. The children appeared, received the intermittent care of the mother, and lived or died as circumstances dictated.

In the barbarian stage of human culture there seem everywhere to exist fairly definite population practices and not infrequently a justifying body of theory. The stage of culture is, speaking generally, marked by a rough and vigorous life, great exposure and hardship, an uncertain and irregular food supply, and an almost chronic state of warfare. There is a consequent high rate of mortality and a correspondingly high birth rate is a condition to group strength and group survival. Numbers are an advantage and additions to the group are in consequence always desired. The body of moral doctrine of the group comes in to justify and sanctify whatever means are adopted to reach the results desired.

The ancient Jews typify the condition and desires common to all tribes in a similar culture stage. They were a fighting group, consequently strength and national prosperity lay in numbers. Hence the governmental, religious, educational, and social forces operated to produce the results desired. Barrenness was the most humiliating

misfortune that destiny held in store for women and was penalized with all the brutality of tribal law. Fecundity was encouraged by the Biblical injunction to "Be fruitful, and multiply, and replenish the earth," and by the divine promise that the seed of the faithful should be as the sands of the seashore. Marriage was universal and universally desired. Celibacy and monastic ideals had no place in their type of life and consequently found no lodgment in their personal or group ideals.

The Policy and Practice of the Spartans.—As a rule the nations of antiquity regarded an indefinite increase in the population as a public good since it multiplied the number of the country's fighting men. Public policy therefore favored a rapid increase. But social conditions were frequently unfavorable, so laws to encourage marriage, reward fecundity, and penalize celibacy were very numerous.

In the Grecian world there everywhere existed a consciousness of the population as basic to the needs of society. The ideal frequently included regard for quality as well as mere numbers. Theory and practice varied from state to state and within the single state, from time to time, in response to the changing needs of the local social situation. But control of the man power, its quantity and its quality, in the interests of the state was the consistent motive behind the policy and practice. There were both desire and effort to direct the population in accordance with the more or less immediate local need.

Sparta, in order to supply the amount and quality of man power which the military state demanded, undertook the full regulation of marriage. With an eye single to the welfare of the state, she made marriage a political and legal institution for the procreation of future citizens. The decimation of the population by an intermittently

interrupted warfare made it a prime necessity that there be a constant supply of young men. Marriage was made compulsory. The unmarried man suffered the penalties of positive law as well as the minor indignities of popular insult: he labored under numerous political and legal disabilities and was the butt for the disrespect of the Spartan youth.

But not only was the Spartan required to marry under pain of popular contempt and legal penalty, he was also required to accept a marital companion according to regulations. He did not choose according to inclination; marriage had nothing to do with personal happiness nor enrichment of personality. It was arranged solely with regard to the prospective physical and mental power of the expected offspring. If the arrangement fell in accordance with the personal inclination of the persons concerned that was incidental, a thing of interest to them perhaps but not a concern of the state.

The marriage of the Spartan youth was not, however, the chief concern of the Spartan state. The state interest lay in the birth rate and marriage was regulated merely because it was the conventional preliminary to the end desired. As might be surmised, the unions so arranged did not prove a particularly efficacious means to the end desired. Consequently the state interest did not cease with the celebration of the marriage; it undertook to stimulate the fruitfulness of the marriage after it had been celebrated. In encouragement of large families there were, at least at times, public rewards for fathers of three or four sons. And even within the marriage relation, fruitfulness was a matter of more consequence than was the legitimacy of the offspring. That private inclination did not in all cases coincide with public policy is made abundantly evident by the frequency of abortion and infanticide.

On the side of quality, care was taken to consummate the marriage at the age of full strength of body since this was assumed to be conducive to vigor in the offspring. There was also an effort to free society from the burden of the weak, deformed, and consequently useless individuals. Exposure of the new-born infant on the mountainside was effective in eliminating those who, at that stage of development, were not of the robust and vigorous type desired.

The Athenian Practice.—The practice of the Athenian world was somewhat more considerate of the individual personality than was that of the Spartan, yet it drove to the same end. Marriage was less vulgarly public than in Sparta and the state interest in its fertility less offensively prominent. The regulation of marriage varied directly with the needs of the time. There were, as in Sparta, laws against celibacy and also laws and customs designed to increase the legitimate birth rate, but in times of peace there was an absence of their enforcement as well as an advocacy of late marriage as a check on the redundant tendency of the population. Colonization was the usual outlet for excess numbers. Private control through abortion was common. The practice of infanticide by exposure, here as in Sparta, was probably more of a quality than a quantity measure. The legal sanction of this was doubtless nothing more than the deliberate incorporation of a folkway into the mores of the group.

Abstract Theories of the Greeks.—The abstract theories of the Greeks in regard to population were a function of the time—little more than a rationalization and systematization of the prevailing folk practice. Plato subordinated everything personal to the popular conception of the common good. Marriage he made simply a device for propagating the race; its continuance was con-

ditioned on its fruitfulness. The government should regulate the pairing in order to keep the numbers of the population neither too large nor too small. It should decide which persons might pair that the stock of human animals should be improved as had been the stock of domestic animals. Women between the ages of twenty-six and forty and men between the ages of twenty-five and fifty-five were to be permitted to rear children. Infanticide by exposure was the fate he provided for the offspring of illegitimate unions, for the offspring of parents of unsuitable age, as well as for all weak and crippled children. Any excess in the population was to be cared for by colonization; immigration was permissible in case of a seriously decreasing population.

Aristotle held the same general position though he showed greater comprehension of the personal possibilities inherent in the marriage relation. Breeding, to him, was not the sole purpose of the family. Yet he was equally emphatic for the need of its regulation. His program was almost exclusively negative and restrictive. The number of children was to be strictly regulated. The law was to decide when and with whom marriage was allowable. The age of marriage was decreed as was also the relative age of husband and wife. Men should be at least thirty-seven years of age and the man about twenty years the woman's senior. Elderly couples were not to be allowed to bring children into the world as these were supposed to be mentally and physically less fit than the offspring of couples in the prime of life. Exposure was the fate of deformed and superfluous children. Pregnant women with the legal number of children were to be relieved by abortion.

Both Aristotle and Plato maintained the proposition that in a communistic society marriage and the birth rate

ought to be regulated and restricted by law in order that the means of subsistence might be adequate to the citizens. In some of the city states of Greece, abortion, unnatural love, and infanticide were deliberately recommended and practiced as a means of population control.

The Roman Policy and Practice.—The population policy and practice were more definite and conscious in the Roman than in the Grecian world. The variations from the Greek view were in harmony with the different conceptions of the ideal state held by the two civilizations. The Roman ideal was one of imperialistic domination and its realization demanded a constant replacing of the human life destroyed in the wars of conquest. The official policy, therefore, was one of stimulating the increase of population, and public opinion and legal regulation of marriage were directed toward that end.

The rearing of legitimate offspring was conceived to be a public duty; marriage existed for the purpose of rearing citizens for the state and soldiers for the army. From the earliest times there was effort directed toward increase in the number of the people through encouragement of marriage. This encouragement assumed both an affirmative and a negative form: there were special taxes and other penalties for celibacy and childlessness and various immunities and rewards for marriage and parenthood. Young unmarried women were forbidden, by a law of Julius Cæsar, the use of litters and debarred from wearing jewels and precious metals. Matrons, by a later law, were granted the right to wear ornaments and a distinctive dress, in addition to various other exclusive rights. The laws of Julius Cæsar rewarded the parents of large families. The laws of inheritance were so framed as to favor married persons of family. In order to enable

them to rear children, Trajan provided assistance to the prospective parents among the impoverished nobility.

There was, however, a wide divergence between the official policy and the private practice; between the individual human view and the public ideal. That the upper classes, at least, were not very fruitful is abundantly shown by the need of penalties and awards to stimulate their productiveness. And the situation seems not to have been greatly improved by the measures adopted for its control. The Augustan laws, for example, were a practical failure so far as their intent was concerned, though they did operate to the advantage of the public treasury: penalties for celibacy increased the public revenue rather than the marriage rate. And in case marriage was contracted it was rendered less burdensome by the absence of children. The childless state was a prevalent private ideal.

The Influence of Early Christianity.—Early Christianity was a reaction against the social and moral conditions existing in the Early Roman Empire. Family life was at a rather low ebb; sex immorality was open and shameless; celibacy, combined with public prostitution and sex perversion, was usual in the higher classes. It is too much to say that there existed in the early Christianity any conscious population policy. But its reaction against the prevailing sex customs, its extra-mundane philosophy which regarded population as of secondary importance, and its Oriental doctrine of asceticism, made it a force acting against an increase of population. The primitive Christian sects avoided matrimony. Marriage and procreation were regarded as impure and evil: a kind of animalism to be avoided. Chaste celibacy was the ideal; marriage was an inferior state. The cult of the Virgin Mary and its great vogue degraded woman and marriage. From this position the Church made no advance, as may

be seen in the fact that a canon of the Council of Trent fifteen centuries later expressly states the greater sanctity of the celibate than of the married state.

It is of course true that a very wide gulf existed between the doctrine of the Church and the practice of its adherents. The celibacy of the holy class was not always a state of chastity. Yet there can be no doubt that the notion of the impurity of marriage and the sanctity of celibacy and virginity acted as a check upon population growth. In its Mediæval form, the Christian doctrine was not favorable to fecundity.

Mediæval Conceptions of Population.—From the Greek philosophers until after the Reformation the problem of population was not seen except in a prejudiced and limited manner. The Greeks emphasized quality as well as numbers. The Romans had a definite war policy. Because of theological bias, the Church saw the problem as a moral one. Luther had no conception of the population problem: "Gott macht kinder der wird sie auch wohl ernähren" was a deliverance of the father of the Protestant Reformation. Population and subsistence for population were matters under the control and subject to the jurisdiction of a wise and benevolent deity.

The sixteenth century economic views were not greatly in advance of the Mediæval conceptions. The prevailing point of view continued to be a moral and religious one. Catholicism still regarded marriage as a concession to human weakness and advocated celibacy as the pure and desirable state. The reformers attacked the Catholic position on moral and physiological grounds and advocated marriage. But the whole matter revolved in the squirrel cage of theological controversy.

The Cameralists.—The prevailing doctrine of the Cameralists from the middle of the sixteenth to the end

of the eighteenth century was that of number. The fundamental problem of both the learned and the popular writers was the welfare and strength of the state and the means to increase the income of the public treasury. The strength of the state and the condition of the public treasury were alike dependent upon the number and the opulence of the prince's subjects. The greatest possible population was the condition desired. The numbers might come either from immigration or from natural increase. Genetic increase was a thing to be encouraged, positively by rewards, tax exemptions, and other special privileges for heads of families and, negatively, by penalties and disabilities on childless couples and unmarried men. Immigration should be encouraged by advertising methods and by making attractive the conditions of peasant life.

The possibility of a redundant population did not, in general, come within the orbit of their thought. The German lands were sparsely populated and under-cultivated. The social writers saw no immediate prospect of soil depletion and believed it wise governmental policy to promote by all possible means the growth of numbers since this would mean greater internal and external security; greater abundance of agricultural, industrial, and commercial product; and a greater number of persons over whom the tax burden of the state might be distributed. "He is the richest prince who has unlimited sovereignty over the most subjects," was a conclusion of Zincke, who further concluded that "all legitimate means must be used to maintain a constant increase of the population."[1] "A land can never have too many inhabitants," thought Justi.[2] Sonnenfels believed that the increase of numbers was the great good and that every means to promote public wel-

[1] A. W. Small, *The Cameralists*, p. 265.
[2] *Ibid.*, p. 444.

fare was to be measured by the touchstone of whether or not it tended to increase or diminish population number.[3]

But the Cameralistic writers seem to have realized as fully as later ones that populations cannot indefinitely increase. Secendorff states that "under ordinary circumstances each region can properly maintain only so many people from its own resources as can get their means of support from its yield." [4] Sonnenfels, in arguing that the institutions should be shaped to promote the increase in numbers, points out that there are both natural and institutional limits to population increase, that they are different in different countries, and that means should be used to insure the largest population "which they are capable of supporting." [5] There is no reason to believe that the Cameralists were under the misapprehension that populations could increase without limit. But the practical form of the population problem in the situation was that of a sparsely inhabited territory and the theory in consequence concerned itself with problems of increase. The statements were not so qualified as to form universally valid propositions, they neglected questions of quality, but so far as they went the views of the Cameralists were generally tenable.[6] The Malthusian form of the problem did not appear in the German situation and consequently received little attention from the social theorists.

The Mercantilists.—From the middle of the sixteenth century to the middle of the eighteenth, the body of politico-economic doctrine known as mercantilism dominated the social thought of the commercial nations. The period was characterized on the political side by the appearance of the great states with their luxurious courts

[3] *Ibid.*, p. 500.
[4] *Ibid.*, p. 341.
[5] *Ibid.*, p. 502.
[6] *Ibid.*, pp. 15, 478.

and expensive governments and by the struggle among the nations for political supremacy. Large and permanent armies demanded men and money, and the supreme value of a dense and rapidly increasing population was an almost universal assumption.

While the ultimate motive behind the demand for numbers was militaristic—the desire to achieve a dominating position among the nations of the earth—the doctrine itself ran in economic terms. Wealth was conceived to consist in a collection of the precious metals; each increase in the amount of gold and silver was a net increase in the wealth of the nation. Inasmuch as the supply of these metals was limited, one nation could grow rich only to the extent that other nations grew poor. Foreign trade, in the absence of mines, was the only method by which national wealth could be increased. In this foreign trade a "favorable balance" meant increase in national wealth, an "unfavorable balance" signified national decline. If exports exceeded the imports in value the balance was paid in money and the national wealth correspondingly increased. Theory and practice alike were concerned to insure this favorable balance in trade. To this end it was necessary that the exports be large in volume and of high value. Fabricated goods, rather than raw materials, had therefore to be exported. But the manufacture of goods required the expenditure of much human labor and, in the system of thought, the laborer came to occupy a position of great importance. The labor of the people was the source of the nation's wealth. "The greater the population the more could be produced, the more there was produced the more there remained for exportation, and the greater the resultant balance the greater the amount of

gold and silver which had to be imported."[7] There was, therefore, the desire to increase the labor supply. The more populous the country, the greater its supply of labor, the greater its wealth and its possibility for increasing its wealth. Every mercantile country sought for means to increase the number of its people. In spite of the universal poverty and misery, the idea persisted that the population was too small.[8]

The welfare of the laborer himself was not a part of the mercantilist concern. The idea that the welfare of the individuals and families of which the nation was made up was the measure of the nation's wealth, that the prosperity of the laboring class itself was an end in itself and an index of national wealth, did not come within the scope of the doctrine. Not only did the welfare of the masses find no lodgement in the doctrine, their welfare was more generally conceived to be inimical to national welfare. The doctrine in general sought means for reducing the laborer's share in the distribution of product to a bare existence minimum. By decreasing his means and reducing his status of comfort, through increasing the number of competing laborers or by other means, it was believed to be possible to improve his thrift and industry. "The exigence of the poor proceed from their crimes of indolence and sloth"[9] and by increasing the number of laborers the crimes are removed by the disciplinary effects of a life and death struggle. Low wages redounded to the nation's wealth by increasing exports, and by improving the thrift and industry of the laborer still further

[7] C. E. Strangeland, *Pre-Malthusian Doctrines of Population,* pp. 119, 120.

[8] W. H. Haney, *History of Economic Thought,* seems disposed to minimize the importance of numbers in the mercantilist body of doctrine. See, p. 103.

[9] Defoe. Quoted by E. S. Furniss, *The Position of Labor in a System of Nationalism,* p. 138.

increased it. Even the men concerned with poverty and the relief of misery held tenaciously to the idea that populations were too small, and all schemes proposed for the relief of the starving took pains to make it abundantly clear that they would not in any way operate to decrease the population of the country.

Efforts to stimulate increase were general in all the commercial countries. The economists and other writers advised the statesmen to use all means to increase the size of the population. Statutory regulations to this end were numerous and varied in character. Direct encouragement to marriage was given through state dowries, aid to newly married couples, increased pay for married men, relief from taxes, and by various other means. Fecundity was encouraged by material aid to fruitful marriages. A French law made the father of ten children tax-exempt for life; another provided pensions for noblemen with families of ten children. The penalties for illegitimacy were frequently lessened or entirely removed and bastardy sometimes encouraged by lascivious festivals, and in some cases even more directly.[10] In general, immigration was encouraged, by tax exemption in Spain and by grants of free land in Prussia, and emigration was discouraged or prohibited. Specified means recommended and used differed with time and place, but increase was the almost universal desire and the encouragement of increase was widespread in practice.

There were, however, some men, less firmly grounded in the prevailing doctrine, or for other reason less impervious to objective fact, who expressed ideas more modern in tone. Even during the sixteenth century and the early seventeenth there was some anxiety in regard to excess

[10] C. E. Strangeland. *Pre-Malthusian Doctrines of Population,* pp. 129ff.

numbers. Poverty and wretchedness were general, and the desire for increased population was sometimes accompanied by efforts to reduce the number of paupers; the desire was for a type of laborers not likely to become a public burden. Raleigh quite early advanced the idea that war which destroyed numbers was a blessing in that it relieved congestion, reduced pestilence and hunger—things otherwise necessary to prevent the overflowing of the world. But such ideas did not gain much currency until a considerably later period. There were new countries, little known and sparsely settled, and colonization was an ever-present means for relieving excessive population.

Population Thought in the Later Years of the Eighteenth Century.—At the beginning of the eighteenth century and even somewhat earlier there was a definite approach toward the ideas of Malthus. There still was a pretty uniform agreement among the writers that large and increasing numbers were necessary to national prosperity. The mercantilistic and nationalistic doctrines were generally accepted. But these doctrines were more and more frequently supplemented by other theories. An inquiry was beginning as to the causes that hinder increase and there was a tendency to include in this inquiry speculations regarding the amount required for human sustenance. The matters of popular health, employment, and comfort were coming to be looked upon as things of governmental concern. There still existed a good deal of the old theological idea that children were from God and that provision for them was His concern. There was little sympathy with the people and little comprehension of their problems: they still existed much as did other stock whose increase served to enrich the owner.

The physiocrats of the eighteenth century were a good

deal less confident. They insisted upon the possibility of a food shortage as a thing that should be taken into account by a nation, and emphasized the need of agriculture to support a population. There was still a pretty general agreement that an increase of population was a thing to be encouraged, but the emphasis was laid on the need of relieving the misery resulting from poverty rather than on increasing the opulence of the merchants and the prince. They very generally rejected the nationalistic idea that a dense population was the great good. Mirabeau stated with great clearness the dependence of population on the means of subsistence,[11] and the same idea was echoed by Quesnay [12] and others. But not all the writers of the school accepted the idea, nor was the idea limited to them. In general, the problem when recognized was not conceived to be of pressing importance, and while many writers of the time recognized the existence and general nature of the problem, all failed to treat it in an extended or systematic way. Adam Smith, for example, took note of the problem but did not discuss it.

By the middle of the eighteenth century all of the elements of the so-called Malthusian doctrine were in the literature of political economy and their acceptance was well-nigh universal. The wretched condition of the masses of the population was more generally recognized. Such writers as understood the conditions of their time and devoted themselves to studies that had to do with the population and the production and distribution of wealth, saw the essential relation between the food supply

[11] "La mesure de la subsistence est celle de la population." *L'ami des hommes, ou traite de la population,* 1755.

[12] "La propagation n'a des bornes que celles de la subsistence et elle tend toujours a passer au dela; partout il y a des hommes dans l'indigence." *Analyse du tableau economique maxime,* xxvi, 1758.

and the number of the people. The German writers were the slowest to see the problem; they very generally refused to entertain ideas of overpopulation, but toward the end of the century they were no longer a unit in seeing only unmixed good in a redundant population.

During the half-century before the Malthusian statement, the literature was filled with protests against the luxury of the nobility and of the wealthy classes and with pleas for a consideration of the miseries of the peasantry. The agitation for reform was continual. The inequality of the tax burdens of the state and the inequitable distribution of property and income were the chief points of attack. For a quarter of a century preceding the statement of Malthus, the idea that populations tend to increase more rapidly than do the means for their subsistence was accepted by practically all the students who found occasion to consider the subject. There was a wide difference in modes of expression, the dangers of overpopulation were not equally clearly appreciated by all, but there was a virtual agreement as to essentials.

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CHAPTER IV

THE MALTHUSIAN THEORY OF POPULATION

Social Conditions in England at the Close of the Eighteenth Century.—The problems of population, as well as the doctrines relating to them, vary, and must be understood in the light of the existing circumstances. Like the generality of economic theories, that of Malthus was a product of the time and a number of factors contributed to produce the conditions out of which his statement arose.

The social conditions in England during the latter years of the eighteenth century were far from ideal. The population had rapidly increased. The discovery in rapid succession of a series of important mechanical inventions had laid the basis and partly elaborated the superstructure of a new industrial system. The textile and other industries had called new towns into existence. Unable to compete with the large-scale machine and factory type of industry, the older types of industry were everywhere in ruins. Partly as a result of a succession of bad harvests the rural districts were impoverished and the agricultural population was in distress. The recent wars had so impaired the country's credit that the importation of supplies from abroad was difficult.

The immensely increased production resulting from the use of power machinery did not redound to the benefit of the working classes. On the contrary, the machine type of industry brought with it the wage system. This, operating with no government regulation and with an

unorganized and redundant labor force, brought the results to be expected. Wages were very low. Means of communication were limited and labor had only a local market. The competition of laborers resulted in a minimum wage and a maximum day. The wage fell below the point of physical subsistence and the employment of women and children increased. As a consequence wages were farther reduced. Workingmen, unemployed and on the verge of starvation, filled the roads and towns of England. Children, in the proportion of from ten to sixty to one adult, manned the factories. Under this ruthless stimulus the birth rate increased; the labor of children was in demand and it was only by the labor of their children that adults could live. On the mortality side the system was of course a form of infanticide, but one approved and advised by Minister Pitt and other statesmen of the day. Child suicide was common. The massacre of the children was not due to any scarcity of labor: the country was overrun with idle adults seeking employment. This disordered social condition is the completest example in economic history of industry operating under a régime of liberty and unregulated business administration.

The English System of Poor Relief.—Superimposed upon the profound disorganization which came with the unregulated transition from the domestic to the machine type of industry was a most vicious system of public poor relief. This "allowance system," just reaching its culmination, was a system of wage-subsidies: "relief in aid of wages." The state undertook to find employment for the unemployed and to supplement insufficient wages by money from public funds. In 1795 was inaugurated the plan of public relief for all families with insufficient income, the amount of the relief being regulated accord-

ing to the price of wheat and the number in the family.[1] The amount necessary to sufficient living, not earned in wages, was made up from out-door relief funds. Wages fell; poor relief increased. This pauperization of the working classes at a time when industrial conditions were undergoing revolution was, from the social point of view, most unfortunate. From the business point of view it was ideal.[2] The practice of a system of allowances of money to all pauper children encouraged improvident marriages and an excessive birth rate among these classes and so favored a progressive decline in wages. As the poor rate increased, wages decreased and manufacturing profits correspondingly increased. In its incidence the poor rate amounted to a species of subsidy to manufacturers. The taxpayers were burdened for the benefit of the manufacturing classes and not for the benefit of the poor.

The Rising Socialism.—The rapidly evolving and socially unregulated technical revolution was allowed thus to operate to the immediate advantage of a small group. The obvious fact that the great economic inequality was due to bad distribution of economic goods rather than to insufficient production of food forced itself upon attention. It was out of this condition that socialism as a human protest was taking its rise. In the eyes of this movement, the cause of widespread human misery was seen to lie in the palpable injustice of defective human institutions; these institutions were the invention of men and so subject to human control and direction. There was in existence an abundant amount of social wealth which,

[1] Gibbins, H. de B. Gibbins, *Industry in England*, pp. 409f., quotes the resolutions passed by the Berkshire Justices.

[2] "Those manufacturers who employed parish apprentices sometimes even received annual payments from the parish for keeping its paupers at work." Gibbins, *Industry in England*, 9th ed., p. 413.

if more equitably distributed, would afford humanity an easy existence in exchange for a very moderate amount of labor. The resulting leisure, spent in intellectual and moral self-improvement, would result in an indefinite perfecting of human nature.[3]

This socialistic theory, crude, inchoate, without scientific formulation, varied in statement, frequently with the same man, through Utopia, communism, anarchism, and common-sense efforts at immediate practical reform. But the contrast that any formulation of it made to the social conditions of the time was sufficiently striking to win for it a large following. In spite of all the crudity of the doctrine as enunciated, it held out a hope to the proletariat that boded ill for the special privileges that were entrenched in the existing order; the conservative class felt itself menaced by the subversive views.

The Malthusian Law of Population.—It was at this stage that the theory of Malthus made its dramatic entrance on the social stage.[4] It came as a reaction from the optimistic socialistic views that seemed to be menacing the social order. Of the middle class by birth and educa-

[3] William Godwin, *Enquiry Concerning Political Justice and its Influence on Morals and Happiness.* (1793.)

M. Condorcet, *Esquisse d'un tableau historique des progrès de l'esprit humain.* (1794.)

[4] *An Essay on the Principle of Population, as it affects the future improvement of society, with remarks on the speculations of Mr. Godwin, M. Condorcet, and other writers.* Published anonymously, 1798.

The second edition, 1803, appeared with the writer's name and with the title altered to read: *An Essay on the Principle of Population, or a View of its Past and Present Effects on Human Happiness; with an enquiry into our prospects respecting the future removal or mitigation of the evils which it occasions. A New Edition Very Much Enlarged.*

The new edition was in fact about four times the dimensions of the original essay. Malthus calls it a new work and says in the preface that he retains "few parts" of the first edition. A comparison of the first and second edition, however, will not bear out Malthus' statement.

tion and of the Anglican Church by profession, Malthus was fitted by birth, and training, to give voice to the fears that stirred the breasts of the middle-class group.

The theory as enunciated by Malthus was a formulation, in language that the manufacturing class could understand, of ideas that had been stated, as early as Aristotle,[5] and that had been current in economic thought for half a century before his time.[6] In simple form, stripped of its stage clothes, his thesis was that population constantly tends to outrun the production of means for its subsistence. The reproductive power of man, being in excess of his power to increase the food supply, always results in a scarcity of food and, unless the reproductive tendency be controlled, the excess in population will live in misery and die in want.

Malthus noted the biological tendency of man as of other animal forms to increase with rapidity and stated the tendency in the mathematical form of a *geometric* ratio.[7] He cited the example of the United States as a case in point. But food for the population obviously cannot indefinitely increase in like ratio; it may increase but only by additions, not by doubling. Malthus stated this in the form of an *arithmetic* ratio and cited England as a case in point.

On the basis of these premises the conclusion was inevitable: population, tending always to increase faster than the means for its subsistence, must ever press on these means of subsistence and its numbers be limited within them.

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[5] *Politics,* Bk. II, Ch. VI; Bk. VIII, Ch. XVI.

[6] Malthus himself states that, after the publication of the first edition, when he began to look into the subject he was surprised to find how much had been done. Preface, Second Edition.

[7] For criticism of Malthus' analogical type of reasoning on this point, see A. G. L. Rogers, *The Industrial and Commercial History of England,* pp. 57, 58.

The forces that operate to keep the population within the limits of the food supply may come either from man or from nature. The ultimate check is the food supply. If all persons were provided with sufficient sustenance, the relief would be but temporary; the increase of marriages and births would soon produce a redundant population. In the words of Malthus:

"Population invariably increases where the means of subsistence increase, unless prevented by some very powerful and obvious checks. . . . The ultimate check to population appears then to be a want of food, arising necessarily from the different ratios according to which population and food increase. But this ultimate check is never the immediate check, except in cases of actual famine."[8]

The checks to population increase may be either positive or preventive. Malthus regarded the two as varying inversely.

The positive checks may depend either upon mankind or upon nature. Those depending on man are immoral and include such things as war, abortion, and infanticide. Those which depend upon nature are providential and include such things as unhealthful climate and disease epidemics. All that shortens life, whether the vices of individuals, the hardships imposed by the social system, or natural diseases and privations fall within the category of positive checks. Malthus' own formulation runs:

"The positive checks to population are extremely various, and include every cause, whether arising from vice or misery, which in any degree contributes to shorten the natural duration of human life. Under this head, therefore, may be enumerated all unwholesome occupations, severe labor and exposure to the seasons, extreme poverty, bad nursing of children, great towns, excesses of all kinds, the whole train of common diseases and epidemics, wars, plague, and famine."[9]

The preventive checks are those which operate to prevent births. They are of two sorts: one comprehends prostitution and other forms of sexual vice; the other

[8] *Essay*, Last Edition, pp. 7, 14.
[9] *Essay*, Last Edition, p. 9.

includes those prudential considerations which counsel men to defer marriage, as the fear of poverty, the desire to escape a lower standard of living, the fear of inability to support a family in a decent manner. All this, when not accompanied by irregular sex gratification, Malthus spoke of as "moral restraint" and advocated it as necessary if society is to avoid the operation of the positive checks.[10]

The Reception of the Malthusian Statement.—It was perhaps always a matter of universal knowledge that the number of a people is likely to increase in the presence of sufficient food to support increased numbers. Perhaps it had also been a matter of universal observation that disease, food shortage amounting to famine, wars, and similar things destroy life and so decimate populations. It also seems reasonable to suppose that few literate people had failed to observe that the fear of poverty, a sense of duty, an ambition for success, a celibate life, and similar things when general in a society, slow up the rate of increase. These simple and obvious facts of common notoriety were taken by Malthus, restated in a ponderous and not too clear terminology,[11] and re-presented

[10] This idea appears only in the later editions; the first edition recognized no such checks. See Preface to the Second Edition. The three-fold division—vice, misery, and moral restraint—is in the second and later revisions. The first had the two-fold division, vice, misery, and the fear of them. This introduction of "moral restraint," prudence, made the position tenable but it was an entirely new solution—a virtual admission on the part of the author that the first position was not tenable. And the conception of "moral restraint" even in the later editions implies only the avoidance of matrimony. The idea of limiting the number of the offspring by abstention from sex relations after marriage was nowhere suggested by Malthus.

[11] Cannan even implies some question as to the intelligibility of the Malthusian statement.

"It is in great measure the result of this change between the first and later editions that the soundest economists will hesitate if asked directly, 'What is the principle of population as understood by Malthus?' or 'What is the Malthusian theory of population?'" *Theories of Production and Distribution,* p. 134.

to a world that accepted them as something novel and profound.

The flattering reception that was accorded the pronouncement of the theory is a thing of interest and consequence concerning it. Its success was immediate and widespread. It gave rise to an unprecedented and prolonged discussion. The book passed through a series of editions and revisions and its author was covered with titles, honor, and glory.

A number of circumstances need to be taken into account to explain the favorable reception and the immense vogue enjoyed by the theory. Chief among these was the temper of the time; the age was ripe for its pronouncement. It rationalized an inarticulate body of thought common to the time. The optimism of the socialistic philosophy called for a pessimistic reaction.[12] So, too, did the social implications of socialism call for a reaction toward an individualistic statement. The essay in effect was a polemic directed against the socialistic teaching of the day,[13] a polemic in refutation of a communistic scheme of society and a defense of private property as the cornerstone of the social edifice. As a popular refutation the book was a success.

The form of the statement was a thing distinctly in its favor. It was a brief, ephemeral, political tract. It was only later, when the success of the statement had somewhat unduly inflated the author's self-esteem, that Malthus attempted the familiar pseudo-scientific task of seeking facts to provide a scientific foundation for the precon-

[12] Charles Gide and Charles Rist. *A History of Economic Doctrines.* Richards' translation of the second edition, p. 122.

[13] " . . . an anonymous pamphlet in a political controversy. . . . " James Bonar. *Malthus and His Work,* p. 5. See, also, J. K. Ingram. *A History of Political Economy,* p. 113.

ceived theory [14] and to give the whole a profound gravity of treatment.[15] This labored statistical and historical afterthought brought out nothing new, but it added materially to the bulk and consequently to the impressiveness of the volume. The views implied fatality, necessity, unchangeableness; this profundity helped its vogue. It likewise contained a good deal of pious mummery that was very popular at the time.

But the element of greatest import in accounting for the success of the pronouncement seems to have been the fact that it exonerated, or seemed to exonerate, the wealthy classes from responsibility for the existing condition of society.[16] They needed no longer to reproach themselves for egotism and indifference to the social ills. If there were poor in the society it was now clear that the fault was neither one of the wealthy classes nor of the social order. Not the rich but the poor themselves were responsible for the condition of the poor.[17] The cause of poverty was in the blind and stupid improvidence of the poor and in their incontinence. A man born into a world already full had no right to demand a maintenance; nature had provided no place for him at the banquet table and bade him begone.[18] Not only that, nature enforced the

[14] Professor Marshall. *Economics of Industry*, p. 30, however, speaks of this as " . . . one of the most crushing answers that patient and hard-working science has ever given to the reckless assertions of its adversaries."

[15] Compare Ingram, p. 117.

[16] Compare Ingram, p. 121. See, also, the statement of Henry George, *Progress and Poverty*, pp. 98ff.

[17] "The poor are themselves the cause of their own poverty." *Essay*, p. 458.

[18] "A man who is brought into a world already possessed, if he cannot get subsistence from his parents on whom he has a just demand, and if the society do not want his labour, has no claim of right to the smallest portion of food, and, in fact, has no business to be where he is. At Nature's mighty feast there is no vacant cover for him. She tells him to begone." This famous passage was omitted from later editions.

order. The sight of the miserable peasant need no longer torment the mind by raising doubts concerning the rightfulness of wealth. The peasant's misery was the peasant's fault, or that of his parents, who had brought children into the world without having the means with which to support them, and by so violating the terrible laws of nature had brought misery and suffering upon themselves and their family.

So, too, could the prosperous man now argue against the poor rate. It was a violation of the will of nature, *i.e.*, the will of God, for the number of children to exceed the parent's economic capacity, and those who thus violated nature's laws should be left with their offspring to suffer the consequences. There should be no interference with the laws of nature. Poor laws should not be established and where existing should be repealed; they only aggravated the evil.[19] Man had thought to increase the power of the state by an increased population, but instead he had increased poverty. Man had then attempted to relieve poverty with the result that he increased the number of the poor. There should be no interference with the laws of nature.

It is little to be wondered at that the entire privileged class of English society received the theory as a stroke of genius. Possessing most of the land of England and living in luxury amidst miserable and starving peasantry, they were seduced by a theory, irrelevant as it was to the subject, which seemed to exonerate them from all responsibility for the evil social conditions.[20] The doctrine accounted for all the evils about which the progressives had made such cry and defended and justified the inter-

[19] Gide and Rist, pp. 135f., note 3.
[20] Compare Rogers, p. 58.

ests, prejudices, and abuses which seemed at the point of being overthrown.

The success of the theory thus lay in considerable part in its political significance. It was a conservative, pessimistic reaction against the radical, optimistic system of the socialists and was couched in a form that gave it the appearance of finality, of being an irresistible and fatal law. It seemed a new and convincing argument in defence of the philosophy of wealth just then rather hard put. As such it had the appearance of being practical, *i.e.*, it could be used in defence of the existing social arrangements. And withal it was highly flattering to the property-owning classes. Its popular success was thus due more to the interests that it defended, or seemed to defend, than to any profound scientific truth that it enunciated.

Critics of Malthus.—Aside from the violent protest from certain religious sources and the criticisms of the socialists who connected the phenomenon of overpopulation with the inequality in the distribution of wealth, there was in England no opposition to the theory for a long time. On the part of the economists there was no critical intellectual reaction whatever: they simply took it over and incorporated it into the literature of their science. Ricardo accepted it as self-evident. Mill, asserting that the only objection to it was in the sentimentalism of the critics, made it a part of his system. The same thing was true of Cairnes, Senior, and the generality of the economists of the time, who tended to exalt the hypothesis to the position of an irrefutable canon of the science.

Some other writers accepted the law somewhat less blindly. MacCulloch declared that Malthus had established a half truth, not a whole one. Doubleday insisted that the problem of population was a thing to be studied

with regard to the needs of a given society. Others raised question as to the validity of the two progressions without a denial of the fundamental truth of the teachings. Some, more sensitive to objective fact or less hypnotized by doctrine, drifted away from the theory. There was not, however, within the field of economic science, any man who conceived the idea of taking the theory as a working hypothesis and submitting it to the scientific test of facts.

It was not until after the fall of the English birth rate following 1879 that there came any general reaction on the part of the economists against the full acceptance of the doctrine, not indeed against the truisms that man must eat to live and that the food supply available at any given stage of economic development is limited, nor against the biological facts of human reproductive capacity, but against the doctrinaire pessimism supposed to follow from these facts. With the decline of the birth rate there was a corresponding decline in the enthusiasm for this doctrine. Economists began to assign to it a somewhat more modest place among the furniture of their science, or even to deny its validity in part or in the whole. Bagehot pointed out its inconclusiveness. Graham raised a doubt as to its theoretic truth and denied its practical value as an aid in the solution of the social problem. Galton recorded his impressions concerning the pernicious influence of the teaching. Ingram, while recognizing the service of Malthus in calling attention to a question not adequately studied either in its practical or its theoretic aspects before his time, criticised him for exaggerating the consequences of the theory. Ritchie denied the pessimistic conclusions. Price, though giving Malthus an important place in economic history, undertook to show that he wrote for his own age and fell into the scientific blunder of generalizing on the basis of phenom-

enal peculiar to his time. Sedgwick pronounced the theory evil and opposed to the expansion and progress of humanity.

In France the story is not far different. The birth rate at the beginning of the nineteenth century was high. Poverty and wretchedness were the lot of the working classes and this was looked upon as their own fault. Public assistance was blamed for encouraging the excess. The economists and the nobility agreed in their abuse of the philanthropists who would prevent the death of those who were imprudently brought into the world. Fourier was almost alone among the French economists of the first half of the century in his refusal to accept the undiluted Malthusian doctrine. But in France, as in England, the birth rate presently began to decline. Consequently, after about the middle of the century, ideas concerning the Malthusian doctrine underwent a change. The reaction set in and the economists and other writers set themselves openly against Malthus, even some who had previously accepted the doctrine. The more precipitate the decline in the birth rate became, the more violent became the opposition to the previously accepted theory.

Say, writing in 1803, accepted the Malthusian statement without essential modification and expressed himself as believing that men should be encouraged to be economical rather than prolific. Bastiat believed that population had a tendency to accommodate itself to the means of existence and that these increased more rapidly than the population. Some accepted Malthus and made an exception of France. Others believed that, though the theory be absolutely true, there could be no overpopulation and consequently no application of the theory until far into the future. Others avoided the conflict of theory and fact by

accepting the belief that fecundity decreases with the intellectual and moral development of the individual.

The reaction to the theory was more pronounced among the socialists, naturalists, and philosophers than it was among the economists. Proudhon, without attacking the Malthusian law, developed the idea that between the generative power and the industrial faculties there exists a fundamental antagonism. Consequently every improvement in ideas, work, and feeling operates to decrease the strength and the influence of the sexual instinct. Jacoby elaborated the thesis that with the development of the species there is a corresponding decrease in fertility. Within the human races the more advanced, he said, are the less fecund. So within the confines of a single race the existence of wealth, power, talent, intellectual development, decreases fecundity. The physicians of the time directed their attacks against the doctrine of moral restraint, every violation of the generative action being held to be the negation of morality and fateful to civilization.

The Later Economists.—Among the present-day economists there is no unanimity of opinion. Some writers accept the original statement with little or no modification. Ely seems to accept the doctrine without essential modification as does also the English economist Marshall. Taussig accepts it after a not very radical re-interpretation. Gide gives the statement a modified and somewhat lukewarm acceptance. On the part of others there is a rejection of the doctrine or an acceptance in whole or part with an avoidance of the implications.

Still others, while believing the theory, have a confidence that *the standard of living* may so control numbers as to obviate any danger of overpopulation. While the variant ideas are so numerous that a general statement concerning the attitude of economists toward the Malthusian formulation may not be made, it does seem true

that the generality of the economists, though criticising the Malthusian statement with more or less severity and modifying or rejecting parts and supplementing or interpreting others, end by accepting or stating some form of this economic doctrine.

The formulation of Malthus has been the storm centre about which most discussion of population theory and practice has centred since the publication of the *Essay on Population,* and it has commonly served as the point of departure for new or modified types of population theory. The reactions to the formulation have run the whole gamut of human prejudice and credulity; it has received unqualified acceptance as a stroke of divine genius; it has met with absolute denial and rejection as a work of the devil. Between the two extremes have come innumerable shades of qualified acceptance or rejection.

It has frequently been pointed out that the Malthusian doctrine, in so far as it is valid, is little if anything more than a solemn statement of the obvious. The assertion that men must die of starvation if the amount of food is not sufficient to sustain life seems fairly self-evident, as does also the other main proposition that this stage of starvation must ultimately be reached everywhere if the population increases faster than does the means of subsistence. Juvenile as it appears when so stated, this seems to be all of general truth that the doctrine in its original form contained. The remainder of the formulation is an attempt to show that this starvation stage is everywhere actual or imminent, to show the consequences of it, and to point out the means by which the condition may be avoided.

There is no occasion here to enter into any extended criticism or defense of the Malthusian statement. In spite of the great vogue enjoyed by the doctrine, men have not been absent who failed to find it in all respects satisfy-

ing, and some have essayed direct frontal attacks upon the doctrine.[21] In spite of the assertion of Walker that all such attacks are "headless arrows of beginners in economics" and of similar sneers of others, the attacks have not always been without point. Much turns upon the interpretation the critic places upon the pronouncement of Malthus. Taken literally, as stated by him, a goodly share of it is simply not in accord with objective fact. Interpreted by a sympathetic and ingenious critic, most of it can be made to appear either true or innocuous. As left by Malthus, it was an unfortunate statement containing an essential truth. In its classic form the doctrine appears as a metaphysical problem and this faulty statement makes discussion on the basis of the statement itself largely futile; the problem is so stated as to be incapable of answer. We here avoid the doctrinaire discussion as being beside the point in the present-day world, merely calling attention to certain positions that have been made the point of attack or from which other theories have taken their point of departure.[22]

[21] There were more than a score of "replies" to the essay between the publication of the first edition in 1798 and that of the second in 1803. James Bonar, *Malthus and His Work*, p. 2.

[22] Bonar, pp. 394 et seq., undertakes to summarize the criticisms of the Malthusian statement under four heads.

a. Those stating that the doctrine is a truism.

b. Those who admit the position to be unanswerable but believe there is to be discovered some contrary principle.

c. Those who find fault with the details. One group point out that the ratios are not proven. Another group criticise the checks, some claiming that none are necessary, other that vice and misery add to numbers rather than limiting them, others that moral restraint is worse than excessive numbers, and still others point out that other important checks, as misgovernment, bad laws, and the like, are ignored by the statement.

d. Those which reject it on *a priori* grounds. Here are included the ecclesiastical group, which find it contrary to Biblical teaching; the theological, which find in it a denial of providence; the doctrinaire, which claim it denies natural rights; and the ethical and popular criticism, which claim it runs counter to moral sense.

In elaboration and support of the thesis, the formulation of Malthus runs to the effect that population shows a constant tendency to outstrip the means of subsistence and that the tendency becomes a reality with the removal of the inhibiting forces. This is a vital point of the whole theory and in each successive edition of his essay Malthus stated it in the contrasted form of a geometric and an arithmetic progression.[23] Population tends to double in a given number of years, a 2, 4, 8, 16, 32 series; the means of subsistence may increase at best by successive increments, a 2, 3, 4, 5, 6 series. These famous progressions seem to be unfounded and the formulation open to attack, and in fact it frequently has been attacked, from either end. The assumed geometric increase of the human animal is open to criticism both from the point of view of logic[24] and of observation. Malthus made the fundamental error of confusing a potential with a real increase: he mistook a biological possibility for a human tendency.[25] On the side of the assumed limit of the increase of human sustenance to an arithmetic ratio, the facts have belied the statement since Malthus' time and how much longer this may or may not be the case, it would be idle to speculate.[26] No such relation exists in the present-day world between the increase of culture man and the organisms on which he feeds. The fact seems to

[23] The claim of J. S. Mill, *Principles of Political Economy,* Book II, Chapter IX, Section VI, and others that Malthus attached little importance to these ratios is of course plainly in contradiction to the repeated assertion of Malthus himself. See Cannan, pp. 143f., for discussion of this point. Indeed, the contention of Henry George that it is to these formulas rather than to the essential part of his doctrine that Malthus is indebted for his fame, is probably true. See, *Progress and Poverty,* pp. 94ff.

[24] Cannan, pp. 138ff., points out the logical absurdity in the Malthusian reasoning.

[25] Gide and Rist, *History of Economic Doctrines,* give to this statement of Malthus a modified acceptance, pp. 123ff.

[26] Gide and Rist, pp. 124, 131ff.

be, as Senior first pointed out, that the tendency, so far as any difference exists, is exactly the opposite way: the plants and animals on which man feeds both tend to increase faster than man; not man, but the plants and animals on which man feeds tend to increase in a geometric ratio.[27]

In regard to the sex nature and the reproductive desires of man, Malthus' thought was confused and his statement hardly tenable. An inadequate analysis led him to identify the sex appetite and the reproductive tendency and to attribute to the latter the universality and the urgency that seem to characterize the former. But the two are separable things and separate in their motivation. The sex need is a physical appetite common to all normally constituted persons. The reproductive desire is a socially conditioned attitude, and may vary anywhere from near zero to a desire of the first magnitude. Historically it has varied with time and place and circumstance. To the extent that man gains control of his sex nature, or learns to separate sex satisfaction from the physical consequences, the danger of excessive increase tends to disappear.

In his doctrine of "moral restraint" Malthus set as a solution of the redundant tendency of the population an

[27] "Deprived of the theory .... that subsistence can increase only in an arithmetical ratio, the *Essay on the Principle of Population* falls to the ground as an argument, and remains only a chaos of facts collected to illustrate the effect of laws which do not exist. Beyond the arithmetical ratio theory, there is nothing whatever in the *Essay* to show why subsistence for man should not increase as fast as an 'unchecked' population." Cannan, p. 114. See, also, Ingram, p. 116, and Haney, p. 200, notes 1 and 2. Professor Fetter, *Amer. Jour. of Sociol.*, 12:617, 618, states that "The famous proposition of Malthus concerning population is always fallacious and always confusing in social inquiry and ought therefore to be laid away finally in the collection of outgrown illusions. The proposition that population tends to increase faster than the means of subsistence is ambiguous nonsense." . . .

ascetic ideal which, it is asserted, goes to pieces on the rocks of human nature and human need. It is a Utopian scheme in that it proposes for the solution of a human problem a change in the nature of the human being. In defining this concept Malthus says: "Restraint from marriage which is not followed by irregular gratification may properly be termed moral restraint." [28] In a note he adds: "By moral restraint I would be understood to mean a restraining from marriage from prudential motives with a conduct strictly moral during this period of restraint, and I have never intentionally deviated from this sense." He refused to countenance any other means of limiting the size of the family, stating that he was disposed to "particularly reprobate any artificial and unnatural modes of checking population," [29] and he classed as vice any method of satisfying the sexual appetite without involving motherhood. This amounted in effect to limiting the right of marriage to those persons whose income was sufficient to support a family of eight or more persons.[30] This was equivalent to denying family life to all laboring people and postponing it to a late age among many other groups. But celibacy and late marriage as the general practice of the laboring population would be practically synonymous with prostitution: to preach the one is to recommend the other, regardless of all pious professions to the contrary. It is a fair question, perhaps, whether Malthus ever really believed that "moral restraint" as he defined it would have any effect in checking the growth of population.[31] At any rate, he later

[28] *Essay on Population*, p. 9.

[29] *Ibid.*, p. 572.

[30] Malthus assumed five or six or more children to the family of the married part of the population. *Essay on Population*, p. 536. His scheme nowhere suggests any sort of post-nuptial continence.

[31] "At bottom he was never quite certain as to the efficiency of moral restraint." Gide and Rist, p. 129.

made concessions in the direction of the position of the later Neo-Malthusians, without which this phase of the doctrine is hardly tenable.[32]

[32] *Essay on Population,* p. 500.

[The truth contained in the Malthusian doctrine amounts to no more than this, that in order to escape a pessimistic conclusion in regard to the ultimate abolition of widespread poverty we must admit one or both of two possibilities; namely, the possibility of indefinitely continuing to increase the supply of commodities, especially food, by means of scientific and technical progress and the extension of such progress to backward peoples, or else the possibility of intelligently limiting population increase sooner or later to some such degree as it has already been limited in France. *Ed.*]

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CHAPTER V

OTHER THEORIES OF POPULATION

Purpose of the Present Chapter.—The Malthusian essay gave rise to an unprecedented amount of discussion on questions of population. The major part of the discussion, having this as its point of origin, has concerned itself with questions of population increase, the dangers of overpopulation or underpopulation, the preventive and repressive forces operating, and other matters relating to the number of people and their means of subsistence.

Much of this discussion has been little more than futile debate on the basis of the original somewhat faulty premises. Some critics have undertaken to refute the Malthusian thesis and there rested their case. Others, accepting the main contentions, have undertaken to supplement, modify, or interpret it. Still other writers reject the hypothesis and boldly assert the impossibility of stating any general law or principle capable of comprehending so complex a phenomenon as the behavior of population growth. But there have been numerous students, unconvinced by the Malthusian theory, who have undertaken to formulate different and what they conceived to be more valid generalizations.

Some of the alternative theories are of interest and value and come somewhat nearer than that of Malthus to a statement of actuality; some are curious; others are merely foolish. A mere enumeration would be lengthy and tedious and serve no useful purpose.[1] The purpose

[1] L. H. Haney, *History of Economic Thought*, pp. 200ff., gives a partial list of early books written in refutation or defense of the Malthusian Essay. See, also, Palgrave, *Dictionary of Political Economy.*

of the present chapter is not to give an enumeration of population doctrines, but briefly to restate the thesis of a few of the supplementary and alternative theories that have been or now are more or less widely accepted in lieu of the classic economic doctrine.[2]

Theological Doctrines of Population.—Reference must needs be made to certain theological doctrines which are important, aside from the degree of truth or error they contain, because of their influence on large groups. A large amount of the early opposition to the Malthusian doctrine was theological in character. The statement was conceived to run counter to certain theological preconceptions and even to put in question the wisdom of a benevolent creator. Its rejection was therefore assured and its refutation was a religious duty. The present-day attitude of the Catholic Church illustrates the position.

The Catholic writers in general reject the whole Malthusian doctrine as false in the extreme form in which it is stated by Malthus.[3] In the modified and somewhat emasculated form it has assumed at the hands of later writers, they hold it to be not proven and in the very nature of the case incapable of proof. Moreover, if it could be proven, it is of such an abstract and hypothetical character as to have no practical significance and "not deserving of serious attention." Also it has been directly or indirectly the source of immorality, suffering, and wrong social thinking.

On the positive side the orthodox Catholic doctrine has nothing to offer. The usual statement is to the effect that with an efficient organization of industry and an equitable distribution of wealth, among a frugal and

[2] For a critical statement of the position of leading economists see Charles Gide and Charles Rist. *A History of Economic Doctrines*, pp. 137, 188, 189, 345ff., *et al.*

[3] John A. Ryan, "Population," *The Catholic Encyclopædia.*

industrious people who place no limit on the physiological power to reproduce after marriage, there would never be any undue pressure of population upon subsistence except locally and temporarily, provided a considerable number of the population lived a life of religious celibacy, others deferred marriage to a late age, and others emigrated when the region became congested. The exercise of forethought in the Malthusian sense is treated by the group as an immoral practice.

A Cosmic Theory.—An ingenious theory of recent origin runs in terms of cosmic force. The natural power to conceive and procreate children is subject to cyclical variations of centuries in length. A cycle of great procreative activity is followed by one in which the power declines, to be followed in due time by an era of restored creative power. The fall in the European birth rate in the past half-century is due to the entrance of the race on one of the cyclical periods of fecundal decline. This theory, which has some currency, is chiefly of interest as an evidence of the curious vagaries of the human mind when divorced from a saving sense of humor.

Sadler's Law of Population.—Michael Thomas Sadler, after attempting a statistical refutation of the Malthusian position, undertook to base a universal law of population on his assumed principle that the fecundity of a people bears a direct ratio to the fertility of the earth.[4] His argument runs to the effect that the greater the fertility of the soil, the greater the fecundity of the population, and the greater the density of the people with regard to the space inhabited, the less the fecundity. Human fertility and density of population stand to each other in an inverse

[4] *The Law of Population; a Treatise in Six Books, in disproof of the superfecundity of human beings, and developing the real principle of their increase.* 1830. Macaulay's reply to Sadler is to be found in his *Miscellaneous Essays, Edition,* 1868, pp. 183–216.

ratio, the urban communities being inferior to rural districts in their reproductive power. If it be fair to interpret Sadler's law to mean that population will increase with greatest rapidity where the room for expansion is greatest and to understand room to imply food, the law becomes merely a variant statement of the Malthusian principle. Even if any validity be allowed to this law, it is certainly inadequate to account for the behavior of the modern birth rate, and consequently fails as a general principle.

Alison's Principle of Population.—Alison, in 1840, published a two-volume work[5] in which he undertook to show that "by a singular anomaly, the rapidity of increase is in the inverse ratio of the means which are afforded of maintaining a family in comfort and independence. It is greatest when these means are least, and least when they are greatest."[6] The greatest increase is among the poor, the slowest increase is among the wealthy. He maintained the proposition that the British Isles were easily capable of feeding a population of one hundred and twenty-three million with half or more of the land uncultivated. Nevertheless he provided emigration as a remedy for redundancy of population. He was obsessed with the fear of a stationary or declining population as a forerunner of the decline and fall of the empire.

The Position of the Socialists.—The socialists in general have held to some variant of the economic statement. They have commonly attacked the Malthusian statement either by denying any general tendency toward overpopulation or, when admitting it, have characterized it as a phenomenon peculiar to a capitalistic social régime. In civilized society there is almost never a pressure of population on means of subsistence. There is often an inequi-

[5] *The Principle of Population.*
[6] *Ibid.* Vol. I, pp. 112, 250.

table distribution of the economic product that may leave individuals or classes in distress, but seldom any actual scarcity of food. Under a more rational order, the production would be ample to support the population. And, given an equitable distribution, there would be no danger of overpopulation for the reason that the increased comfort would bring as its accompaniment a lower birth rate.

Doubleday's "True Law of Population."—An obvious shortcoming of the generality of the economic theories of population is their failure to analyze the causes which lead to variation in human fecundity in different social situations. In the place of such analysis, Malthus and many of his followers assumed the sex "instinct" as a constant impelling inducement to human procreation, and economic considerations as the sole and sufficient ultimate counteracting force. This appears to be an unduly simplified statement of human behavior. The birth rate, while the causes of its variations are still imperfectly understood and are awaiting complete and final investigation, is nevertheless controlled by causes that were mostly unknown and unsuspected by Malthus and the early Malthusians. Many of the alternative and supplementary theories that have been proposed have been directed toward an analysis of these causes.

An early attempt to state a general law of population in other than economic terms was that of Doubleday.[7] His formulation runs in terms of the physiological effect of food. Observing the fact that in the well-to-do families there was likely to be a dearth of children, he saw the explanation in terms of nutrition. A plentiful supply of food makes plethoric man more frequent and in this state

[7] *The True Law of Population.*

he is generally disinclined to rapid multiplication. The necessary corollary is that a nutritional deficiency produces an unplethoric state singularly favorable to the increase of a disordered generative capacity. " . . . whenever a species or genus is endangered, a corresponding effort is invariably made by nature for its preservation and continuance by an increase of fecundity or fertility . . ." So, in the existing state of society, the reproductive capacity of man is inversely proportional to the abundance of nourishment. In the prosperous and well-fed nations the population decreases; while in the poor and under-fed communities the birth rate increases in proportion to the poverty. Doubleday cited a goodly number of cases in support of his position, but seems not to have adequately analyzed the underlying causes of the uniformity he observed. If there be a physiological correlation between abundance of food and human fertility it is probably in the reverse order.[8] But in any case it is wholly inadequate to account for any large variation in fertility.

Natural Selection as a Law of Population.—A conception of human population that comes from carrying over certain biological ideas gained in the study of the lower organisms is very commonly held. In the case of many of the writers, especially those of the eugenic school, the theory is chiefly a quality conception and is only in a secondary and incidental way interested in matters of number and increase. Others, however, state more definitely a theory of numbers, and some implication as to number seems to be implicit in most of the discussion which has more directly to do with questions of quality.

[8] Spencer's criticism of this phase of Doubleday's Law is to be found in his *Principles of Biology,* Vol. II, note, pp. 483–485.

Woodruff[9] states the position in its crudest form. The idea, so far as it is of concern in the present connection, runs to the effect that the advance of peoples is a result of biological struggle and survival. In primitivity there were accidental variations in fecundity. The man who had a small number of children was better able to rear them than was the man who had a larger number, and small families survived in a larger proportion of cases. There was thus a selective process favoring the small family. The diminution of the birth rate was at first slow: there was relatively little advantage inhering in the small family in the savage state and the process of natural selection had not much on which to work. But, as civilization advanced, the advantage inherent in small families increased and the natural selection of those who naturally have small families has gone on with ever-increasing rapidity.

In the modern world the appearance of large families is not always a sign of reversion to a savage type, but such families generally show signs of abnormality. A large family is recognized as a stigma of degeneracy. The small family possesses the advantage in the struggle for family survival: those having the fewest offspring are best able to care for them; the others are so overburdened that the young suffer in nourishment. Anything, as charity that prevents starvation, maternity hospitals for the poor, after-care for the mothers of the poor, is bad in so far as it interferes with the beneficial natural process of eliminating these prolific members of the race. They are unfit to live in civilization and it is only by allowing them to die out that the race advances.

In still another way the biological law of natural selection is supposed to operate as a law of population. Not

[9] *Expansion of Races.* Especially chapters 12, 13, 14 (1909).

only does it eliminate the fecund stocks, it operates to raise the age of marriage. The age of puberty has increased by natural selection and so delayed the age of marriage; there is a difference of four years as between Northern and Southern Europe. Natural selection is still at work and in a little time it will be as natural to marry at thirty as it now is at twenty-five, and once was at twenty, and as it still is at fifteen in the tropics. Eventually the race will consist of the descendants of those who delay marriage. The birth rate diminishes without any interference of artificial laws and automatically adjusts itself through the elimination of over-fecund family groups.

Spencer's Biological Law.—Spencer gave, perhaps, the most precise formulation to the biological theory of population, though Darwin, as well as a number of others, had given it a prior statement.[10] The general condition of their existence makes inevitable the destruction of the great proportion of the lower organisms. They must, in consequence, show an extremely high fertility if the species is to continue to exist. The high proportion of the vital energy that thus goes to insure the perpetuation of the species prevents any high degree of individual development in the species' members. In the more developed animal types the eliminative forces are less destructive, because of greater powers of self-preservation, and a correspondingly lower rate of multiplication is needful. So among the various species of animals the greatest fecundity is found correlated with the lowest degree of individual development: there is "an inverse proportion

[10] Herbert Spencer, "A Theory of Population Deduced from the General Law of Animal Fertility," *Westminster Rev.*, April, 1852. The theory, revised and expanded, reappeared in 1867 as "Laws of Multiplication," Part VI, Vol. 2, of his *Principles of Biology*. References below are to the American edition published by Appleton in 1897.

between the power to sustain individual life and the power to produce new individuals." [11]

> The forces preservative of race are two—ability in each member of the race to preserve itself, and ability to produce other members—power to maintain individual life and power to generate the species. These must vary inversely. When, from lowness of organization, the ability to contend with external dangers is small, there must be great fertility to compensate for consequent mortality; otherwise the race must die out. When, on the contrary, high endowments give much capacity of self-preservation, a correspondingly low degree of fertility is requisite. Given the dangers to be met with as a constant quantity, then, as the ability of any species to meet them must be a constant quantity too, and as this is made up of the two factors—power to maintain individual life and power to multiply—these cannot do otherwise than vary inversely: one must decrease as the other increases.

The law of inverse variation between fecundity and individual development holds for man as for other living forms. As the highest of the animals, he is the least prolific. Pressure of population in the case of man makes advantageous the growth of skill, intelligence, and self-control, and Spencer believed that a constant exercise of these led to their gradual growth in the species and to a corresponding decrease in fertility. Cerebration is especially opposed to generative power. The relative infertility of the upper-class girls he explained in terms of the educational system overtaxing their brain.

Among the races of men fecundity decreases as ascent is made from the lower to the higher. Excess fertility results in pressure of population and in a consequent competition; this makes necessary thought and the expenditure of energy, which results in the growth of intellect with its corollary, a loss of fertility. The progress of the species is a development of individuality, and the greatest individuality has as its necessary consequence the lowest degree of fecundity and, on the other hand, the least individualism has as its corollary the greatest fecundity.

[11] *Principles of Biology*, 2: 401, 403.

Individualism is something that is acquired, and just to the extent that it is acquired, the power of generation is correspondingly lost. As a consequence of this fact, the human races that have developed most are the ones that are least prolific. What they have gained in one respect they have lost in another.

Dumont's "Law of Social Capillarity."—Dumont, denying both the theoretical value and the practical implications of the Malthusian doctrine, advanced an alternative theory that made population depend yet more exclusively upon economic conditions. Human fecundity he conceived as somehow correlated with economic status. But he would seem to deny the possibility of stating any universally valid law. Concerning the relation of population to subsistence, he believed that the only generalizations of value that can be made are those limited to a particular country, time, and state of civilization.

Births, he maintained, are most numerous in the poorer nations and in the poorer classes. The more civilized the nation becomes the more the birth rate falls. A high birth rate coincides with ignorance, poverty, coarseness, and credulity; a low birth rate with education, wealth, and absence of religious faith. The existing high birth rate of the English people, which seemed in contradiction to his theory, he accounted for in terms of custom and tradition: the persistence of family spirit and tradition had temporarily preserved the birth rate of the English classes at its former level.

In a democratic society, in the absence of class and caste barriers which prevent the rise of the ambitious and the capable, population will increase so far as "social capillarity" extends. With new economic opportunities, population will increase; where economic opportunities are absent or static, population will not increase. He says:

In a democratic society, the real danger is excessive limitation of the birth rate by all classes, even the lowest. When privileged classes and social stratification have disappeared, the members of every class strive to raise themselves above their present condition by restricting the number of their offspring.

Rae's Principle of "Effective Desire."—Malthus and his followers, confusing the reproductive tendency of man with his physiological sex appetite, held the view that the tendency toward genetic increase was regular and insistent and that an actual increase in numbers resulted wherever, and to the extent that, the physical means of life were available. "That population does invariably increase where there are the means of subsistence, the history of every people that have ever existed will abundantly prove." [12] In the words of the elder Mirabeau, the human race, given the means of subsistence would multiply "like rats in a barn." Resulting directly or indirectly from food scarcity, due to increasing numbers, a series of human and social ills—poverty, vice, misery, war, epidemics, infanticide, etc.—held the numbers within the means of life.

Rae, as a result of his observations of population phenomena in the Hawaiian Islands, was led to question the finality of the bio-economic doctrine.[13] In the Islands food was easily secured and increasingly plentiful. "Subsistence is easily procured here, there being an abundance of vacant, fertile land, two hours' daily labor on which would give every man ample support for a large family. Cattle, goats, and horses . . . have been added to the resources of former times." Moreover the positive checks to population increase were absent or becoming decreasingly important. "Those other forms of vice and things

[12] Malthus, pp. 17, 18, Ashley's edition.

[13] John Rae. *The Sociological Theory of Capital,* pp. 354ff. For a more elaborate statement, see "Letters of Rae (1796–1872) to Mill on Malthusian Doctrine of Population," *The Econ. Jour.,* 12: 111–120.

analogous to vice, which are the positive checks of a growing population in straitened material circumstances—wars, epidemics, human sacrifice, infanticide, inconstant marriages, and intercourse between males, which last was formerly an established institution, have all since the coming of the missionaries been greatly lessened or done away with altogether." Yet, in the presence of all the conditions necessary to rapidly increasing numbers, the Islands were being rapidly depopulated through the neglect, refusal, or inability of the population to reproduce their numbers. Rae was thus forced to recognize the inadequacy of the current doctrine and undertook himself to formulate a theory in terms of human motive.

Holding that the inadequacy of the Malthusian doctrine was in its failure to recognize a difference in human and animal nature and in its consequent assumption that their behavior obeys the same laws, Rae found a guiding principle in the "effective desire for offspring." In his own words:

> A truly philosophical Essay on Population, fearlessly embracing the whole subject, might proceed thus. Man is an animal and more. Being an animal he must in each generation exercise his power of propagation to the extent of somewhat more than reproducing himself, else accidents would diminish and ultimately destroy the race. He resembles the inferior also in this, that the act of propagation is attended with vehement pleasure. But he differs from them in this, that he knows the probable results of this act (which they do not), and in dread of these results may altogether refrain or take measures to negative them. He has in short the capacity of diminishing his numbers by abstinence, which his reason, either when on the right road or when wandering, may teach him; or by other modes in which the appetite is abundantly gratified. For the reason that man is more than an animal, therefore, to increase, or merely to preserve, the numbers of any society, it is necessary that there exist an *effective desire for offspring.*

The "effective desire for offspring" Rae undertook to explain in social terms. There are "certain sentiments pervading the society" which owe their existence to historic experience and are relatively permanent in their

nature. Nevertheless these "instincts of society" are subject to change. The attitude of women toward child-bearing, for example, may be one of desire for children and pride in their care or it may be one of shame at being engaged in the drudgery of child-rearing. An optimistic social attitude is favorable to a growth in the "effective desire for offspring"; in a discouraged and pessimistic society men lose their desire for offspring and cease to reproduce. In this tendency of persons to respond to the stimuli of the social environment, Rae finds the explanation of the "effective desire for offspring," while in the desire itself lies his explanation of population growth and decline.

A Sociological Theory as Stated by Nitti.—Nitti [14] in general seems to accept the biological theory as stated by Spencer, but recognizes it to be weak on the social side. Other facts than biological ones must be taken into account: the desire for a comfortable life, fear of the effect of numerous offspring, need for maintaining one's self in the same condition. The slight fecundity of the advanced civilizations is not purely biological, as Spencer would seem to believe; the moral feelings have always modified and acted as a restrictive force on the birth rate. Nitti's "Law of Capillarity" would seem to amount to a supplementation of Spencer's biological statement by supplying social and psychological factors neglected by Spencer. His thought, or at least his statement as it appears in available translation, is very confused. But it is clear that he rejects the Malthusian economic theory as inaccurate and inadequate. "The greatest mistake of Malthus was in placing the law of population outside of man and not in man. . . ." [15]

[14] Francesco S. Nitti, *Population and the Social System.* English Translation. Scribner's, 1894.

[15] *Ibid.*, p. 94.

In the past century increase of subsistence in all civilized countries has greatly exceeded increase in population, and the concomitant increase in poverty and of unproductive consumption are necessary consequences of a vicious form of economic distribution, not the result of an excessive multiplication of the species. The population of a country—the production of men—has an organic tendency to accommodate itself to its means of subsistence. The causes which bring about the biological adjustment to the means of life are of three classes: the psychic and moral ones—religion, morality, æsthetics—which appear slight but because of their perpetual and unceasing action have a very great influence; the social causes—political organization and social divisions; and the economic cause—the distribution of wealth.

Every man, in the absence of uncontrollable conditions, tends to raise his social position, and in order to do so makes whatever sacrifice may be necessary. In a democratic social situation, where every citizen has a chance to better his condition, yet where very considerable economic inequalities exist, the birth rate rapidly diminishes. But where rigid class distinctions make difficult or impossible the passage into a higher class—where the "law of social capillarity" is not allowed to function—there will be a higher birth rate. A high birth rate is possible only where the phenomenon of social capillarity is weak or absent. The lower the economic condition and moral feeling the more will pleasures be restricted to those of sense and consequently the more abundant and disordered will be the birth rate. Every improvement in the condition of a people—every increase in wages, in standards of living, in diffusion of wealth, in extension of leisure and ease, in development of solidarity—makes for development of individuality, and a decreased fecundity results from every

development of individuality. Nitti's final formulation reads:

> Every diffusion of wealth, and every increase in solidarity imply, as we have seen, a development of individuality. Every development of individuality implies a decrease of fecundity.
>
> We may, therefore, conclude that in every society where individuality will be strongly developed, but where progress of socialization will not extinguish individual activity; in every society where wealth will be largely subdivided and where the social cause of inequality will be eliminated by an elevated form of coöperation, the birth rate will tend to become equal with the means of subsistence, and the regular variations of demographic evolution will not have, as in the past, an element of fear and terror.

READINGS

Very little of the controversial literature on the basis of the Malthusian statement will repay the student for the time of reading. Various references in Palgrave's *Dictionary of Political Economy* should be read and the article on "Population" in the *Encyclopædia Britannica*. For the Catholic doctrine, the article by John A. Ryan in the *Catholic Encyclopædia* is adequate. The following may be read with profit:

Rae, John. *Sociological Theory of Capital.* Article VI. "Population."

Rae, John. "Letters of Rae to Mill on the Malthusian Doctrine of Population," *Econ. Jour.*, 12: 111–120.

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Field, J. A. "Publicity by Persecution," *Survey*, 35: 599–601.

CHAPTER VI

THE GROWTH OF POPULATION

The Growth of Population Among Non-culture People.—In the various collecting stages of primitivity the numbers are of necessity small. The food supply is usually not abundant and the business of finding and collecting it is best carried on by rather small hordes. In their wilderness state few countries will support more than an average of one person to the square mile. In the hunting stages a larger population is possible and usual, but no country provides the necessary abundance of animal life to make possible any very considerable population living on the spoils of the chase.

There is a great difference in the niggardliness of nature in different regions, but the possibilities of population growth seem to depend less upon this than upon the state of culture. Ratzel [1] states that with the hunting races the population is so scattered as frequently to average but one man or even less to an area of twenty-four square miles. Where there is some agriculture, the same area supports from ten to forty, and as agriculture becomes somewhat developed from one hundred to three hundred may occupy the area formerly needed for the support of one. Where fishing is combined with agriculture the population of the same area may reach as many as five hundred, and the same figure may be reached where herding and agriculture are combined.

But in spite of the rather limited boundaries placed on population increase, the maximum numbers permitted by the natural conditions and the stage of development of

[1] *History of Mankind*, 1: 10.

the industrial arts seem rather seldom to have been reached. A redundant population was a rare phenomenon in primitivity. Primitive existence was not easy. A constant and severe struggle to provide the means of life tended to reduce the number of non-productive consumers. Human life was valued very lightly and its span was short. Tribal strife was the rule. The natural equality of the sexes was usually disturbed. The long nursing period made impossible a large number of children per mother. Sanitation was unknown and filth diseases were numerous and frightfully destructive. The rate of infant mortality was high. It is not likely that the natural fecundity of man is very greatly in excess of that necessary to insure group survival in a state of primitivity. Among the present-day nature peoples the groups are small and the growth in numbers slow. The chief exceptions are those groups that have come under the influence of European civilization. Here the white civilization, by suppressing the slave-traffic and the inter-tribal wars, controlling endemic disease and other decimating forces, has made possible an increase of peoples who before had been kept well below the limits of their food supply.

The Growth of Numbers in Mediæval Europe.— Statements concerning the population of Europe during the Middle Ages are of course estimates: there are no reliable statistics for periods prior to the nineteenth century. But, when such estimates are based upon adequate investigation as to the number of people who could find support on the given area in the prevailing state of social conditions and industrial development, they probably approximate accuracy.

In the state of culture prevailing at the time of the Norman Conquest, it is not probable that the continent of Europe could have supported a population much in excess

of ten million. At the time of Christ, the number of people that the continent could support was probably less than one-half that number. According to Mulhall,[2] the population of Europe was somewhat above fifty million in the fifteenth century. Willcox[3] has estimated that in 1492 the total of the six language groups, French, German, Spanish, English, Italian, and Russian, was probably fifty million, about one-eighth of the present number.

Whatever the actual figures, it is certain that the population was small and probable that it was very nearly stationary all through the Middle Ages. For support there was an almost complete dependence upon the products of the immediately surrounding area. A community more dense than the area immediately adjacent was able to support was subject to hunger and the consequent disease and death. The food was generally scanty and its quality poor; the population was chronically underfed. Famines were periodic. There was an absence of sanitation and epidemics were frequent and destructive. There was an absence of medical and surgical science and disease and accident were often fatal. Wars were almost constant and in the hand-to-hand type of mediæval warfare the percentage of combatants killed was high. The housing was poor and the exposure great. The conditions of life were hard and its period short. Emigration from crowded areas was difficult and immigration into other regions equally so. War and pestilence and famine were never absent from some part of the continent down to the present century.

The Growth of the European Population.—Prior to the nineteenth century there are no accurate statistics con-

[2] *Dictionary of Statistics.*

[3] "The Expansion of Europe in Population," *The Amer. Econ. Rev.*, 5:737–752.

cerning the number or growth of peoples. Voltaire, whose figures were accepted by Gibbon, estimated the European population at one hundred and seven million at the beginning of the eighteenth century. Süssmilch in 1741 placed the number at one hundred and fifty million. This estimate he revised some twenty years later and the revision showed a reduction of twenty million from his original figures. Willcox,[4] by employing the statistical device of extending back a rate of increase determined by successive enumerations, estimated the population of Europe to have been one hundred and twenty-seven million at the middle of the eighteenth century.

During the nineteenth century the population of the world increased by approximately one hundred per cent. The number is usually given as about 850,000,000 in 1830; at the present time the best estimates place it at approximately 1,700,000,000. The figure for the earlier period is, of course, in large measure, an estimate; even at the present time only about one-half are known by actual count. The rate of increase during the century was very unequal in the different grand divisions: in millions, Europe increased from 200 to 465; Asia from 400 to 870; Africa from 100 to 140; and the Americas from 20 to 205. The uneven rate of increase is shown in somewhat

POPULATION OF CERTAIN EUROPEAN COUNTRIES IN MILLIONS

	1801	1901	
European Russia	40.1	112.8	
France	26.8	38.6	
Germany	25.0	56.4	(1900)
Austria-Hungary	25.0	45.4	(1900)
Italy	17.5	32.5	
Great Britain and Ireland	16.3	41.5	
Spain	6.0	18.1	(1897)

[4] *Amer. Econ. Rev.*, 5:741, 742.

more detail in the preceding table, which gives the approximate numbers at the beginning of the nineteenth and the beginning of the twentieth centuries.

During the past half century fairly reliable statistical data have been available concerning the populations of most of the European countries. During this statistical period there has been a steady and very rapid increase in most of the European populations and no country for which reliable statistics are available has shown an actual decrease except from emigration or temporary causes, as war or pestilence. The United Kingdom increased from approximately 29 million in 1860 to above 45 million in 1910. European Russia increased from less than 65 million in 1870 to over 131 million in 1910. Germany increased from 38 million to 65 million from 1860 to 1910. For the same period, the French population increased from 37 to 40 million; Austria, from 1870 to 1910, increased from 20 to 29 million; Hungary increased from 16 to 21 million from 1870 to 1910; Spain from 1860 to 1910 increased from 16 to 20 million; Italy for the same period increased from 22 to 35 million. During the same period, from 1860 to 1910, the population of the United States increased from something over 31 million to approximately 92 million; for 1920 the figure is given as 105,710,620.

The rate of increase by decades for eight important European countries during the period covered by the census enumerations is shown in the accompanying table.[5]

[5] The effects of the European War on the population of the European countries has been variously discussed. See, for example, Raymond Pearl, "The Effect of the War on the Chief Factors of Population Change," *Science*, n. s. 51: 553–556. W. W. Rossiter, "Influence of the War on Population," *No. Am. Rev.*, 203 (1916), 700–710.

RATE OF POPULATION INCREASE BY DECADES FOR EIGHT EUROPEAN COUNTRIES FROM 1870 TO 1910.

	United Kingdom	European Russia	Germany	France	Austria	Hungary	Spain	Italy
1870	12.2	....	13.1	1.7	8.3	6.2	5.6	7.2
1880	12.9	....	12.1	2.5	7.9	10.0	6.1	7.7
1890	10.9	12.8	12.4	0.4	8.8	9.3	4.6	10.7
1900	10.7	17.0	14.9	1.1	11.9	11.7	6.4	10.7
1910	10.5	17.0	13.3	0.4	10.8	11.2	9.3	11.2

The Growth of the American People.—The United States has had a very great and rapid increase in population. In the period prior to the Civil War the increase was over one-third of its numbers each decade. The economic conditions were favorable to a rapid natural increase. There was an abundance of free land and any excess population of the older settled regions moved on to the unoccupied regions of the middle and far West. The rate of increase has steadily declined in the past half-century but is still high. In addition to the natural increase, immigration to America has at all times been large.

INCREASE OF POPULATION OF THE UNITED STATES, BY MILLIONS, 1790–1920

1790	3.9
1800	5.3
1810	7.2
1820	9.6
1830	12.9
1840	17.1
1850	23.2
1860	31.4
1870	38.6
1880	50.2
1890	62.6
1900	75.6
1910	91.9
1920	105.7

Population Growth in the Oriental World.—There are no accurate statistics available to show either the population number or the rate of population growth in the Oriental world. The estimates are fairly uniform in assigning to Asia approximately one-half of the present total population of the world.

The present population of China seems to be approximately three hundred million, exclusive of the Indo-Chinese and the peoples of non-Chinese stocks included within the political frontiers.[6] This population has remained practically stationary for a century or more. The birth rate, as measured by the present standards of the Western world, is excessively high—sometimes over fifty per thousand. In normal years there are doubtless more births than deaths. But this natural increase is periodically wiped out by war, famine, pestilence, and other primary population checks still endemic in the Oriental world. The majority of the children born, said to be over seventy per cent. in some parts, are allowed or assisted to die. The conditions of life are hard and those who exist do so on a standard which is seldom appreciated by people of the Western world.

Before the opening of Japan to European commerce in 1868, the population was practically stationary. In 1732 it was given as twenty-six million and there was practically no increase for the following century and a quarter. The birth rate was high but increase was prevented by the operation of natural checks, chiefly those arising from insanitary living conditions and food scarcity. As Occidental civilization advanced among them

[6] On the untrustworthiness of the Chinese population statistics, see Willcox, *Amer. Econ. Rev.*, 5:742, 743. On the question of numbers, see, also, W. W. Rockhill, *Report, Smithsonian Institute*, 1904:659–676, and "Note on the Population of China," *Quar. Publs. Amer. Stat. Asso.*, 11:357–362. (1908–1909.)

and spread the idea of sanitation and hygienic conditions, the death rate fell while the birth rate remained at its former level—33.7 per one thousand for the whole island in 1911—and the population increased. In 1846 the number was 27,000,000. In 1871, three years after the opening, it was 33,000,000. In 1914 the number had risen to 53,700,000. The present figure is approximately 56,000,000.

The Indian population is comparable with the Chinese in point of number and with the Japanese in rate of increase. As to what may have been the situation prior to European control there is, according to Willcox,[7] "no evidence on which to base an opinion" though the instability of government with the consequent discouragement of industrial enterprise, the numerous wars, and periods of famine, plague, and pestilence renders it extremely unlikely that there was any rapid increase in numbers. The population of 1851 is estimated as 178,500,000. The first census in 1872 gave the number as 186,000,000; that of 1911 gave the total number as 315,000,000 with 244,000,000 under immediate British authority.[8] This was an increase of 66,000,000 in sixty years, only a minor part of which was due to the incorporation of new territory. The population is about nine-tenths rural and presses rather closely on the means of subsistence.

The Importance of Population Tendencies.—The trend of population growth is of importance from several different points of view. So long as there exist uncultivated fertile areas within a country, a sparse population is unfavorable to the best economic returns. A reasonably dense and increasing population is favorable to occupational specialization, and the consequent rise of intellec-

[7] *Amer. Econ. Rev.*, 5:748.
[8] Mulhall's (Webb's Complement to) *Dictionary of Statistics.*

tual and leisure classes is conducive to progress especially in intellectual, artistic, and other lines not immediately nor primarily productive of utilitarian values. A sparse population, in the presence of undeveloped resources, gives rise to the phenomenon of migration and the consequent mongrelization or displacement of peoples and the cross-fertilization or substitution of cultures. A paucity of numbers hinders and density favors communication, and communication is the fundamental prerequisite to cultural advance. The welfare of the individual units of a society is closely dependent upon the relation of numbers and means of subsistence.

In the present stage of social development, the relative growth of national groups is of political significance. So long as the sentiment of nationality continues in human society, national existence is often conditioned by the ability to exert most effectively the greatest amount of brute force. The trend of population growth is therefore important from the point of view of national security.[9]

1850	1880	1900
1. Russia	Russia	Russia
2. France	United States	United States
3. Austria-Hungary	Germany	Germany
4. Germany	Austria-Hungary	Austria-Hungary
5. United Kingdom	France	United Kingdom
6. Italy	United Kingdom	France
7. United States	Italy	Italy

See, also, H. M. Crittenden, "Resources in Men," *Sci. Mo.*, 3:87-93.

It is natural that a country surrounded by strong neighbors should feel the need of increasing as rapidly as these neighbors. The country with a stationary or slowly

[9] The following table after A. Newsholme's *The Declining Birth Rate*, p. 15, gives the relative position of leading countries in the order of the magnitude of their populations.

increasing population but with increasing wealth and prosperity excites the cupidity of its more fecund neighbors with a lower level of welfare, and stands in increasing danger of invasion by immigration or war.[10]

The relative growth of populations is likewise important from the point of view of human culture. The area of the habitable globe is limited and, with different racial groups and different culture levels existing, the relative rate of population increase will determine, or help to determine, which culture and group of race characteristics will ultimately prevail. It is argued that in the end the world will belong to the most prolific breed of men, and that people naturally wish their race to survive and occupy a preponderant place in the world of the future.[11] The failure of the European to multiply, unless other factors intervene, means the substitution of the black, the brown, and the yellow. There is no sufficient reason to believe that a conquering group from these races would be able or willing to take over and continue the higher but conquered culture, so there would be a positive cultural loss to the world.

From the point of view of persons interested in the economic well-being of existing and prospective human life, the population tendencies are likewise important. The standard of living, so far as it is not a result of exploitation, is an adjustment of numbers to the existing means of life. Wages can only be increased or kept from farther decline, the hours of labor can only be shortened, the working condition can only be improved, by preventing a

[10] *Conquest and Kulture*, a pamphlet issued by the United States Committee on Public Information in 1918, gives various excerpts from German nationalistic literature justifying aggression as a biological necessity. See, also, "War and Population," *Edin. Rev.*, *232*: 192–208.

[11] It is even argued that this desire is a fundamental "instinct." See H. A. Miller, "The Group as an Instinct," *Amer. Jour. Sociol.*, *27*: 334–343.

permanent excess of human units. Economic reforms would be easier with a less rapidly increasing population; the problem of poverty and pauperism can be solved only when population increase is within the means of population support.

In spite of the great growth in numbers during the last century, there has been in the Western world, as a whole, a somewhat general increase in popular welfare. The mechanical inventions and the use of steam in the driving of power machinery made possible a rate of production previously impossible and, at the same time, made possible the transportation of food and the products of the machine industry on an immensely increased scale. New countries were brought under cultivation and their natural productiveness exploited. Scientific crop production increased the yield of each acre, on old or new lands, and agricultural machinery increased the product of each laborer on the land. The advance in science made it possible to adapt to new soils and climates food products formerly not grown there, and to develop the size, quality, and productiveness of plants and animals previously known and used as food. Also, science evolved and modified and man accepted new varieties of food. Along with the scientific and technical advance that resulted in a rapid increase in the food available to support human life, there was an equally important advance in medical science and sanitation which greatly reduced the rate of infant mortality and increased the years of those who succeeded in passing the period of infancy. As a result of the two facts—an increased food supply and a decreased death rate—the population increase during the century among peoples whose numbers have been counted for that length of time has equalled or exceeded the growth during all preceding time. And yet population increased less rapidly

than food production. It is probable that in the sense of having produced more people than its resources, in the then existing state of science, would support, there was more overpopulation of the European world at the beginning of the century than there was at the close. Nor is there any evidence that the point has yet been reached where the multiplication of people has overtaken the means of producing subsistence for them.[12] The earth, in the present state of culture, is abundantly able to support a much greater number of human beings and, given a socialized industry and distribution of economic product, could do so without depressing the standard of living.[13]

It is of course true that in certain countries the growth of population has more than kept pace with increase in production. England and Germany, and indeed most of the older countries of European culture, are greatly overpopulated so far as natural resources are concerned. The existence of these highly industrialized populations, at their present standard of living, has been possible because of other countries whose agricultural products were exchanged for fabricated articles. As their populations increase there is an increasing dependence upon foreign sources for food. The nations operating under the fallacy of industrialism must become more and more hard pressed as the undeveloped countries increase in population and require for their own use a larger proportion of the foodstuffs they produce: it is not probable that the industrial countries can draw their food from other parts of the world indefinitely. As the foreign supply decreases there

[12] It is sometimes asserted that industrial development will continue to be so great as to more than offset any diminished agricultural return. See John Bates Clark, *The Philosophy of Wealth*, pp. 100ff.

[13] Since about 1900, rising prices and declining real wages, that is a decreasing standard of living, have been the rule in countries of European civilization. See W. S. Thompson, *Population: A Study in Malthusianism*, pp. 46, 50, 52, 53, 128.

must result a fall in the standard of living or a reduction of the population to a point more nearly comparable with the natural productivity of the regions. In the absence of new sources of food supply, there must inevitably come serious alterations in the relative density of population areas.

Growth of the European Population and Well-being in the Nineteenth Century.—The world in the present stage of culture has by no means reached the limit of its population capacity.[14] But any considerable increase in numbers must be accompanied by an increased food production or by either a lower or a simpler standard of living. There are possibilities in each of these directions.

There are possibilities of a very greatly increased food production. The scientific discoveries have not been fully utilized, and there is reason to anticipate farther advance in science and consequently an increased production that will make possible a farther increase in human life. The present limits of the food supply may be pushed back by the opening of new lands and by a more intensive cultivation of areas already in use. Soil fertilization is in its infancy and intensive agriculture in America and in

[14] Its capacity, however, seems at times to be somewhat exaggerated. See Edward Atkinson, "Incalculable Room for Immigrants," *Forum,* 13: 360–370, for a typically extreme statement. Henry George, *Progress and Poverty,* pp. 133, 134, asserts that the only limit to population increase is the space limitation and that "the earth could maintain a thousand billions of people as easily as a thousand millions." Herbert Adolphus Miller, "A Bugbear of Economics," *Pop. Sci. Mo.,* 79: 594–601, goes much beyond George and seriously proposes to enlarge the world by setting the plains of Europe and America on edge, to utilize the energy of the ocean tides, transmitted by wireless processes, to drive the ploughs of the prairie farmers, and to cover the earth with several layers of productive soil and to increase the fertility of the subterranean farming areas by artificial light and heat, and other novel if not immediately practical suggestions best appreciated when read in the original.

many other parts of the world is scarcely begun. Deserts may be brought into use by water diverted from distant sources or drawn from a subterranean supply. Arctic regions may be utilized to produce grain and meat for the redundant populations of climatically favored regions. Tropical and subtropical areas of the world, comprising perhaps one-half of its fertile land and with a potential producing power several times that of the temperate zones, may be brought under the control of man. New territory may be exploited; new resources discovered; new, more, and better capital may be employed; improved tools, machinery, and live stock may be developed and used for the more effective cultivation of old and new territory.[15] If the last increment of human life it is possible to sustain in the world is the population ideal, the limit is far from reached: the possibilities of an increased food supply are numerous.

It is also possible for the world in the present stage of control to support a much increased population at the expense of the standard of living. The use of hand labor in agriculture may displace the horse and so release lands now producing animal food to the production of food for man. Woman and child labor may be farther utilized in the production of food. Various plant and animal substances not now in common use and not generally considered fit for human food are capable of being so utilized. It is possible for man to exist on an amount of food much less than that consumed by the average European above the poverty classes.

That the earth is capable of supporting an immensely increased number of human beings, certain of the more

[15] Petr A. Kropotkin, *Fields, Factories, and Workshops*, p. 74f., elaborates the possibilities of increased production through intensive cultivation, as by the market gardener.

fully occupied regions abundantly testify. Japan, whose fertile area is rather fully occupied, has more than doubled her population in the past half-century and is now increasing at a rate of probably seven hundred thousand a year. She imports relatively little of foodstuffs. The population, living on the produce from the rice fields on the terraced hillsides and that of the sea fisheries, which supply the only animal food consumed by the people, numbers from three to four hundred to the square mile of the relatively inhospitable island. If the unproductive areas be eliminated, the productive land supports a population of some 2,688 to the square mile: a population some five and one-half times as dense as that of England.[16] Java is a yet clearer case. The population has increased from about five million a century ago to a total, at the last census period, of 28,745,697. The population has doubled in the last forty years and now numbers some six hundred to the square mile. The food for these people comes from the rice fields, supplemented, in some cases, by foods from the sea. The island, which is about the size of the state of New York, has a rather mountainous interior and in consequence there is some congestion in the valley regions. With the same density of population, continental United States would contain 1,690,000,000 people, approximately the present population of the world. In certain parts of Northern India the sum of human life is apparently increased to the maximum. The land is cultivated under irrigation and the population, entirely dependent upon agriculture for its livelihood, is said to be as high as one thousand to the square mile. When the soil of a country is stimulated to the utmost limit of its productivity, it will support a dense population.

Any considerable increase in the world population, in

[16] Sidney L. Gulick, *American Democracy and Asiatic Citizenship.*

the absence of scientific discovery and utilization of new sources of food supply, which may come but which cannot be foreseen nor predicted, must of course be accompanied by a modified standard of living. A decent standard of living for the present population of the world is not now possible.[17] If population continues to increase as rapidly as the means of subsistence, improvement is possible only by redistribution of population. There are possibilities of increasing the food supply but at an increased expense. New lands may be brought under cultivation and made to support life, but at the expense of greater human effort. A more intensive agriculture will greatly increase the productivity of much farm land, but it will increase it at the expense of increased labor and a readjusted standard of living.[18] This increased production will come in America as man power becomes more abundant and human life yet cheaper. The displacement of the grazing lands and the substitution of a cheaper diet than the meat one will enable more to live though not to live so well.[19] Aside

[17] "A French scientist, M. Hardy, has calculated that if the world's total food production were equally distributed, the ration of proteids available for each individual would be short by one-third of the standard recognized as sufficient to produce efficiency." J. O. P. Bland, "Population and Food Supply," *Edinburgh Review*, 227: 232–252. 247.

[18] Intensive farming is a means whereby a larger population may be supported on the same area of land rather than a means of increasing the surplus produced by each person. It may put off the hour of a redundant population, it cannot prevent it. Cf. Thompson, *Op. cit.*, pp. 86ff., 115ff.

[19] W. S. Rossiter "Matter with Us?" *Atlan. Monthly*, 106: 787–793.

G. S. Dickerson, "The Drift to the Cities," *Atlan. Monthly*, 112: 349–353.

Nor should the fact be overlooked that as redundancy forces a lower standard of living, as cheaper things are substituted for meat, eggs, milk, butter, and other animal foods, there is to be expected a corresponding decline in the industrial efficiency that has distinguished, for example, American workmen from those existing on a meatless diet.

from an unforeseen development of the industrial arts, some sacrifice in human well-being must be made to permit of greatly increased numbers. Java supports some six hundred to the square mile, but she supports them on a diet of rice and fish.

It would of course be possible in the present state of culture to support a largely increased population by a simplification of life without a reduction in the standard of living. A large percentage of the energy of human beings is now expended in the production and consumption of goods that add in no way to human happiness and well-being. Much of what is now produced is consumed wastefully. Some rational control and direction of human activity looking to the reduction of non-essential production and parasitic consumption would enable more to live and all to live better.

Conditions Necessary to a Continued Growth in Numbers.—But when all allowance has been made for a possible increase in the production of necessaries and for a possible decrease in wasteful consumption, the fact remains that there is a physical limit to the amount of food that can be produced. Obviously, there are limits to the multiplication of human beings, however distant the limits may be. With few exceptions populations have tended to increase as far as the natural resources would allow.[20] There is no disputing the Malthusian statement, that the productiveness of the human race is such that, if no restrictions be placed upon the birth rate, the number soon reaches the limit of the available supply of food and is kept within its limits by starvation and death. If the rate of increase that characterized the nineteenth century

[20] See, however, P. Popenoe and R. H. Johnson, *Applied Eugenics*, p. 134, who would seem to deny that there is any such tendency either in man or in other forms of life. This, of course, is the position of Henry George, *Progress and Poverty*, pp. 128, 138, 140 et. seq.

should continue, the time is not far distant when numbers would again be such that all the time of every individual would be spent in the struggle for sufficient food and other necessaries to sustain physical life. In five hundred years, by the year 2400, the world would contain some thirteen and one-half billion people.

It is, however, not probable that the increase of civilized peoples will be allowed to continue to the point of starving populations. The rate of increase in the past half-century is not likely to continue. Indeed, in the civilized part of the world, the birth rate has perceptibly slowed down while the falling death rate has reached a low level and can only be made to continue its decline by an ever-increasing expenditure of effort and even then not beyond limits that lie close to those that have, in some places, already been reached. The birth rate in all probability will continue to decline and probably at an accelerated rate.[21] There are indications that the multiplication of civilized peoples will be brought under rational control and the numbers limited within the means available for tolerable existence.

Indication in Regard to Future Growth.—Under a rational system of social institutions, the number of human units in a society would correspond with a fair degree of definiteness to the existing state of development of the industrial arts. A paucity in numbers as compared to the means actually or potentially available for their support is a handicap to the progress of the group. Operating under a system of increasing returns,

[21] However, the trend of the past half-century does not indicate "any immediate likelihood of population becoming stationary, nor that the rate of increase will slacken materially in the next few decades." Thompson, *Population: A Study in Malthusianism*, p. 104. Indeed, owing largely to the diminished death rate, the population increase for England and Wales for the decade ending 1911 was greater than for any other decade in the statistical history.

every increment, of equal human worth, added to the population increases the effectiveness of the group and its members and thereby makes possible a richer and a more abundant life for all. On the other hand, a redundancy of human life subjects the individuals and the group to the felt or anticipated pressure of circumstances, and life becomes more hard, barren, and empty with each increment to the human group. Relief from the social degradation induced by operating under the conditions of diminishing returns may come from a limitation in numbers or from an increase in the means of life. To bring the numbers of a population to the point of maximum efficiency in a given stage of social evolution and to maintain the balance when once established is to achieve the ideal in population number.

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CHAPTER VII

THE TENDENCY TOWARD POPULATION INCREASE

The Population Tendency.—The two facts of birth and death operate jointly to determine the numbers of any living form. The production of new units is a biological process and the rate of reproduction is inherent in the nature of each species. The period of life is likewise a thing determined in the inherent nature of the species and consequently the rate of elimination is biologically determined. The ratio existing between these two physically determined facts, the physiological reproductive capacity and the normal life period, measures the possibility the form has to increase in numbers.

Neither of these processes operates alone and unhindered. The birth rate is always below the physiological capacity of the species: the death rate is always above that assured by the normal life limitation. Consequently, the possible and the actual ratios of increase diverge; the physiological capacity of every species is everywhere enormously in excess of the death rate assured by the inherently limited life period. The actual birth rate may or may not exceed the actual death rate. Whether or not it does so is determined by facts outside the biological equipment of the species, by the conditions of life endured by the organism.

Every form which is to survive racially must possess the power and the disposition to replace its units at a rate more rapid than the rate of elimination. The growth or decline of a population is an index and a result of the

relative strength of the opposing forces; the population tendency, whether one of growth or of decline, is the result or, to employ a familiar term of physics, the composition, of the forces acting upon it. If the organism is lacking in the power or the disposition to produce new units at a rate at least equal to that at which they are destroyed, the species will presently disappear. It has scored a failure in the struggle for existence and is presently replaced by an organism better fitted to cope with the prevailing conditions of life. If, however, and to the extent that the rate of reproduction exceeds the rate of elimination the species increases and plays an increasingly important rôle in the world's organic life.

The Idea of Population as a Spring.—In much of the Malthusian discussion there seems to be a disposition toward a personification of the result of this natural process. Malthus himself seemed at times to conceive it in personal terms and certainly this is true of certain of the Malthusians. Population is looked upon as a restive force held in check by the great barrier of a limited food supply. Like the dammed waters of a stream, population ever exerts a pressure upon the barrier which holds it in check. Let the barrier be moved, by the pressure behind it or by other means, and the relief is but momentary: the pressure is again renewed through the increase in numbers, and misery and distress are again the fate of the unfortunate wretches held close against its limits.

This conception gets its best expression, probably, in Steuart's figure of a spring. Population is there pictured as a tightly coiled spring held in check by a counterbalancing weight. Increase the weight, by a bad harvest or other element tending to limit the food supply, and the spring is yet more tightly coiled, the population is more sorely pressed and the numbers decline. Decrease the weight by

a good harvest or other factor which increases the available food supply and the spring uncoils; the pressure is somewhat relieved and the population increases until the same pressure is again exerted and the customary amount of misery restored.

Vivid and picturesque as such fancies doubtless are, they nevertheless leave something to be desired in the way of definiteness and accuracy: like all figurative modes of expression, they sacrifice precision of thought to clearness of expression.

The Reproductive Tendency.—The active force in the increase of population is the biological phenomenon of reproduction. This is one step in the cycle of the individual life which, like germination, growth, development, and decay, is essential to the evolution and continuance of a species.

This urge to reproduce is a characteristic of all living matter. It finds expression in a wide variety of ways. In complexity of expression, the method varies from the simple budding and analogous methods of the simpler forms to the highly specialized types of bi-sexual reproduction of the vertebrate animals. In intensity it varies between species and, within the same species, from individual to individual. It may be a purely mechanical and non-conscious matter of cell division or it may take the intensely conscious form of the sex instincts and maternal tendencies of certain higher animal forms. But in every group that is to maintain itself the urge is on an average of an intensity sufficient to more than counteract the destructive action of the environmental conditions to which the species is adjusted.

The Increase of Microscopic Forms.—Uncontrolled and unmodified, the sex urge leads to reproduction at the physiological rate characteristic of the particular form.

The rate of reproduction varies greatly from species to species. It may be slow or rapid, but this rate alone does not control the size of the group. The growth and ultimate size of the population are dependent also upon factors outside the biological equipment of the form itself. The inherent tendency of every species is to increase without limit.

The highest rates of reproduction and the greatest possibilities of increase would seem to lie with the simpler forms of life.

Certain minute organisms, of which the bacteria and certain disease bacilli are typical, reproduce themselves at a rate so rapid that no conception can be formed in terms of number. By a simple process of growth and division the numbers increase in a geometric ratio. Assuming an hourly rate, and many forms exceed this, the descendants of a single individual would exceed ten million in number before the end of the first day. It has been estimated of one microscopic organism that, given a culture medium in which growth and reproduction could proceed unhindered, in the period of one calendar month the descendants of a single individual would be sufficiently numerous to form a mass a million times larger than the sun.[1]

Increase in the Plant World.—The potential increase in the plant world is a fairly obvious phenomenon. Here, as in the animal kingdom, the rate is much less rapid in the higher than in the lower orders. Yet even the higher flowering plants tend to reproduce their kind at an astonishing rate. The marguerite daisy, common to so many sections of the country, is fairly typical in this respect. The blooming season of this plant covers a period of about sixty days. During this time a single plant produces approximately one hundred twenty-five heads of bloom

[1] Havelock Ellis, *Essays in Wartime*, p. 198.

of five hundred seeds to the head; a total of over sixty thousand seeds produced each season by a single plant.[2]

The Oyster.—The oyster is an excellent example of a fairly prolific animal form. An average size female oyster of the Maryland variety lays about sixteen million eggs per season. If one-half of these develop into female oysters there would be eight million female descendants from a single oyster in one year. The second season there would be 64,000,000,000,000 grandchildren of the single mother. The great-grandchildren would number 512,000,000,000,000,000. The fifth generation would total 66,000,000,000,000,000,000,000,000,000,000,000,000. And this goes on the assumption that each female laid but a single brood of eggs. But the oyster lives many years and produces a new brood each season. So the actual number would very greatly exceed the figures given. Allowing eight cubic inches as the amount of space occupied by a single oyster, the fifth generation descendants from a single female would make a mass eight times as large as the earth.[3]

Increase of the Higher Animal Forms.—In the higher animal forms the reproductive power may seem slight as compared with the bacteria or the oyster, yet it is by no means negligible. The difference lies in the need for a few additional generations. The friendly robin raises one to three broods annually. To be well below the mark, set the yearly offspring of each pair at four young. The second season the parent pair would produce four more and the two pairs produced the first year, mating, would produce eight, making a total of eighteen at the end of the second season. If this increase continue for a period of ten years the descendants of the original pair would exceed

[2] M. M. Metcalf, *Organic Evolution*, pp. 10ff.
[3] W. K. Brooks, *The Oyster*, pp. 49ff.

one hundred thousand. By the end of twenty years the number would exceed twenty billion.

The same facts hold true of any form. The elephant, one of the slowest breeding of animals, has the physiological capacity to produce a progeny so numerous that in a very few centuries the earth would not furnish them standing room. Any species, allowed an opportunity freely to reproduce and for each individual to complete its normal span of life, would soon completely fill the world with members of its kind.

Limitations on Natural Increase.—It is evident that the earth could not support the numbers of even a single species that would result were the natural increase of the species not held in check. The result of the two factors, that the amount of space and food on the earth is limited and that, unhindered by adverse circumstances, the process of reproduction results in a geometrical ratio of increase, is the endless and stressful struggle for life.

In spite of the enormous reproductive rate and possibilities of increase of plants and animals, there is relatively slight variation in the number of a given species. Under ordinary circumstances the numbers do not increase; the fluctuations from year to year are not great. Obviously the death rate is always high; in most species more die each year than survive. If each pair of mated robins produce four young each season and the number of robins remains constant, the yearly death rate must be twice as great as the total permanent population. Four die for each two that survive. In other forms with a higher reproductive rate there is a correspondingly higher death rate. If the number of these plants remains constant then of the thousands of seeds produced each year by the flowering daisy all but one are destined to perish, even if the mother plant should die, which is by no means

always the case. In the prolific oyster millions must die for each one that survives else the bay would not hold the increase of a single season.

The Elimination of Excess Life.—Nature is fertile in expedients for the destruction of excess life. Starvation is the fate of the largest number. There is a constant shifting and balancing in the ratio of living forms and their food supply, but the maximum number is set by the available food. Eggs in a great number are destroyed by enemies and the chances of climate. The oyster throws her eggs into the water to be fertilized by accidental contact with male cells similarly thrown out; millions fail of fertilization. In all low forms the production of eggs is enormously in excess of the hatch, and the less the protection provided for the eggs or the offspring the greater must be the number produced if the species is to survive. Heat, cold, floods, drought, storms, take a share. Disease kills many. Multitudes perish that other species may have food. Life is a continual struggle, and in spite of the great energy put forth, the usual result is failure and death. Success is the exception, not the rule.

The Reproductive Capacity of Man.—What is true of the other animals is true of man; the reproductive tendency is the same. In spite of the long period of incubation, of childhood and immaturity, and of the relatively short fertile period of the female's life, the human species nevertheless has the physiological capacity to double its numbers in about seventeen-year periods. This is slow as compared to the lower forms, but it is all-sufficient to people the earth with unnumbered millions within an historic epoch. Assuming a doubling in twenty-five-year periods, to be well within the historic as well as the physiological limit, the descendants of a single pair living at the time of Christ would today be sufficiently numerous so that

the entire surface of the earth would furnish standing-room for about one-eleventh of their number. Assuming that they doubled in numbers in fifty-year periods, the numbers of the descendants of the single pair would today approximate one thousand times the present population of the globe.[4]

Variable Reproductive Rates of Men and Societies.—But men have quite variable reproductive tendencies. Within every society there are numerous women who produce offspring in uninterrupted series throughout the fertile period of life. Single families of twelve or even twenty or more were common in America a generation or so ago and, while less usual than formerly, are by no means a great rarity today. Some women still produce children with all the rapidity of unobstructed nature. With other women the reproductive capacity is less or is allowed less opportunity to function. Aside from those women who never have opportunity of sex experience and whose consequent sterility is beyond their control, there are others who produce few or no children. The individual variation in fecundity runs the whole gamut from complete sterility to reproduction at the physiological maximum.

Societies as well as individuals differ in their reproductive tendencies. As between races there appears to be some native difference in this respect. The culturally backward peoples in nearly all cases show a higher birth

[4] For the solitary example of a family that has survived any great lapse of time, even though assured of subsistence and honor, we must go to unchangeable China. The descendants of Confucius still exist there, and enjoy peculiar privileges and consideration, forming, in fact, the only hereditary aristocracy. On the presumption that population tends to double every twenty-five years, they should, in 2,150 years after the death of Confucius, have amounted to 859,559,193,106,709,670,198,710,528 souls.—Henry George, *Progress and Poverty*, pp. 111, 112.

rate than those more advanced. Among groups of similar race and culture there are marked differences in this respect. There are periods and places where even among advanced peoples the reproductive capacity has apparently been exercised without let or hindrance. In a physical environment that placed a minimum of restriction on growth in numbers and with a public sentiment strongly favoring early marriage and an unrestricted birth rate, the American population in the early decades showed a birth rate approaching the capacity of the species. On the other hand, the birth rate of the French people during the recent decades has been little more than sufficient to maintain a stationary population.

In spite of the variable reproductive tendencies in different individuals and societies, the biological impulse which urges the human as well as other animals to reproduce their kind is itself fairly constant and everywhere sufficient to give a birth rate in excess of social needs. But neither this sex impulse nor the birth rate to which its uncontrolled expression would lead controls the actual increase of population. They set the upper limit to the possible rate of increase. Other factors and conditions control the actual expression allowed the native impulse as well as the average span of life, and so determine the growth in numbers. Neither the actual birth rate nor the growth of population is in proportion either to the sex impulse or to the natural fecundity of the group.

Theoretically, the same forces which serve to keep the animal population within bounds operate with no less force in the human realm. The human group cannot increase beyond its food and space limitations. But in the human group there are other and additional factors which operate to restrict and control human increase, and because of the operation of these additional factors and forces

those primary factors which limit the animal population need not come into operation. Moreover, where these primary limiting agencies are active and effective on the human group they often receive their expression in such modified form as to conceal their real nature. However, the crude primary factors are of sufficient importance in limiting the increase of the human population to merit a separate treatment.

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See, also, "Readings," Chapters VI and VIII.

CHAPTER VIII

CHECKS TO POPULATION INCREASE

Space and Food Limitations.—The foregoing chapter has made it clear that the tendency of man and other animal forms to increase in numbers can nowhere find unlimited expression for any considerable period of time. Certain checks are always and everywhere either actively or potentially in operation and these set the upper limit to the number of the population. These checks are of various degrees of directness and immediacy. They may operate to eliminate life already in existence or to prevent new forms from being born. The former of these, the killing of life forms already born, is the matter of consideration in the present connection. The forces controlling the birth rate and so affecting the population receive separate consideration elsewhere.

At the lowest extreme stands, of course, the condition of space limitation. The earth is limited in size and this, in the absence of other fact, would set definite boundaries to the increase of numbers.

The physical fact of limited space may and does set a limit to the increase of plant life. But in the case of the human and other higher animal forms the space limitation is never directly operative. Long before this stage is reached, bounds are set by other means of limitation. Chief among these is lack of the means of subsistence for the individuals born. If the growth of numbers be not checked by other cause it will ultimately be checked by the sheer impossibility of obtaining the food necessary to maintain the life of the increased number of units.

The food supply thus operates at one remove in setting the upper limit to the world's population. It does not prevent the conception and birth of new individuals but it limits the number of such individuals that can survive. If births exceed this number starvation results and a balance between the number of the form and its means of subsistence is again established.

Famine as a Check on Population.—This starvation of excess forms is one of those familiar facts of animal life which fall well within the experience of every observer. In primitivity famines were periodic. Unacquainted with the arts of agriculture and manufacture, primitive groups were strictly dependent upon nature for subsistence. These means of subsistence were limited to such animals and fish, and such roots, grains, and fruits as were edible in their natural state. In the absence of communication and without transportation facilities, their place of residence was rigidly restricted to areas where a natural food supply was obtainable. Under such conditions any variation in the natural food supply in the direction of scarcity resulted in a decreased population.

With the development of primitive agriculture there was a more abundant and a somewhat more stable food supply, and as we have already noted, the consequent possibility of supporting a denser population. But communication, transportation, and exchange were undeveloped. Economy was local. Markets were very limited, and the groups were still dependent in the main on local sources for their means of subsistence. A storm might cause a bad harvest; a bad harvest meant a period of scarcity. Supplies might be near but, in the absence of means of communication and transportation, unavailable to prevent starvation. Any failure in the local supply inevitably

resulted in periods of scarcity or famine, and deaths from starvation were numerous. The years of scarcity were doubtless less frequent than where the group exercised no control over production but, for that very reason, were more disastrous when they did occur: the denser population provided greater numbers to die in famine years.

The stories of the Old Testament furnish familiar illustrations. Three famines are mentioned in the book of Genesis; one in the days of Abraham; in the time of Isaac there was a famine in the land of Canaan; in the time of Jacob there was a general famine, beginning in Egypt but subsequently spreading and continuing for a period of seven years. Another famine in the land of Canaan which lasted for a period of ten years is mentioned in the book of Ruth. Several others are mentioned in later periods of Biblical history.[1]

There was a famine in Rome in 436, so severe that the starving people are reported to have thrown themselves by the thousands into the Tiber. There was a great famine in Egypt in 42 A.D. In 650 there was a severe and general famine throughout India. In 879 suffering and starvation were so general that the year has come to be known as the period of the universal famine. In 941, 1022, and 1033 there were famines in India so severe that entire provinces were depopulated and the practice of cannibalism was very common. One thousand five was a famine year in England. There was a ten-year famine in Egypt following 1064. The famine in Germany in 1125 is said to have destroyed one-half the population. In 1505 Hungary was devastated and children were made into food for their parents without official interference or

[1] Gen. xii, 10; Gen. xxvi, 1; Gen. xii, 54–57; Ruth i, 1–5; 2 Sam. xxi, 1; 1 Kings xviii, 1, 2; 2 Kings vi, 24–29, viii, 1, xxv, 3; Jer. xxxviii, 9, lii, 6; Lam. ii, 20, iv, 10; Joel i, 4–20.

censure. All through the Middle Ages it was the practice of the city authorities to expel the neediest inhabitants to perish, and this was in accord with the public opinion of the time. Famines continued to be a common affliction in Europe to the middle of the seventeenth century and even occurred during the eighteenth. In Germany the last period of shortage so severe and uncontrolled as to be designated a famine occurred in 1817.

Famine in the Nineteenth Century.—Famine, however, is by no means limited in its effects to past ages and primitive social groups. In the present day, isolated and backward communities periodically suffer the effects of crop failure and the consequent scarcity of food. The Potato Famine in Ireland toward the middle of the nineteenth century is a classic case in the recent history of Western Europe.

The potato was introduced into Ireland in 1610 and before the end of the century had become the national food. It is a form of food that allows the soil of a country to support a maximum population; the labor of one man in the Irish situation was sufficient to plant potatoes to feed forty. Its introduction made possible a great increase in this very prolific people; they married and reproduced with the greatest abandon. In 1640 the population was well under a million. In 1672 it was estimated at 1,300,000. A century later, 1785, it numbered over 2,800,000. For 1803 the figure is given at 5,356,-594. In 1845, the year preceding the famine, the population totalled 8,295,061. The great majority of this population depended for life upon the potato. But the potato does not keep well and the Irish made no attempt to keep it at all. The tubers were allowed to remain in the ground until required for use. The summer months, the period between crops, was always a time of hunger

and hardship. There was no margin and any accident to the staple meant disaster.

As a result of a severe freeze in the winter of 1739, which destroyed the unprotected tubers, one-fifth of the population died of starvation. As the population increased the danger of famine from potato shortage increased. In the decade following 1831, there were six seasons of shortage, in some cases virtually famines. In 1846 came the potato blight with its disaster to the teeming population. In spite of the efforts at relief, Parliament voting ten million pounds for the relief of suffering, probably a quarter of a million starved or died of cholera and fevers resulting from insufficient food. The emigration in the years immediately following amounted to a sixth or a fifth of the remaining population.

India, more than any other country in the world, is liable to famine through crop failure. Five-sixths of the people are wholly dependent upon agriculture and a failure of the crops is a national calamity. The rainfall is very irregular and there is seldom a season when some of the districts do not suffer from drought. This leaves the laborer idle for a year, until the next planting. In his case it is poverty. The food may be there in abundance but he is unable to command it. Little is spent in relief. From time to time the areas of scarcity are larger in extent; whole districts and even provinces may be involved. At least ten great famines ravaged India during the nineteenth century and the periods of scarcity in limited areas are as numerous as the years. The famine in 1770 destroyed 10,000,000, or about one-third of the population. The "Skull Famine" occurred twenty years later and was so designated because of the inability of the population of Bombay to bury the dead as rapidly as they starved. In the famine of 1865 about one and one-half

million starved. A decade later, 1877, the starvation number is placed at one-half million, while in the famine period of 1876 to 1878, five million perished in Madras, Mysore, and Bombay. These are but random illustrations: famine is endemic in India.

A Chinese famine in 1849 resulted in the death of about fourteen million persons. A Persian famine in 1870–1872 destroyed a million and a half, about one-fourth of the population. A severe famine in North China in 1877–1878 resulted in the destruction of about nine and one-half million persons. A decade later China was visited by another similar famine. There was a disastrous famine in Russia in 1891–1892; one in China in 1903; another in Russia in 1905. Such enumeration takes account merely of those periods of food scarcity so severe and extended as to be classed among the great famines of the world. The cases of local food shortage and consequent suffering are legion. It is often said that previous to the nineteenth century there was never a decade in which famines did not occur.

Modern Forms of Food Scarcity.—Natural famine in these more spectacular forms has apparently ceased as a phenomenon of the Western world. Yet the world is never far removed from a shortage of consumption goods. The normal supply of food on hand for Great Britain is about sufficient for a six weeks' consumption. The United States, the richest country in the world, normally has on hand not to exceed a three months' supply of goods ready for consumption. But the more advanced stage of the industrial arts has rendered modern populations less immediately dependent upon the natural food supply. Moreover, the perfected means of transportation and communication have broken down the dependence upon

local production.[2] World markets have replaced local production. As a consequence, the danger of famine is less probable; the failure of a crop no longer means starvation for the group.

But the limitation of the population by shortage of food if less spectacular is no less real. It is true that because of the changed conditions in the more civilized West European countries fewer people die directly because of insufficient food, but the complacent assumption that limitation of food no longer checks population is hardly accurate. The burden of a crop failure is equalized, through the instrumentality of a money economy, and falls upon the world instead of upon a single group. A bad harvest in one place is not felt as a famine, but shows itself as a more or less pronounced increase in the price of the commodity in question, and of other substitute commodities, in the world markets.

The burden of a crop failure consequently falls upon the whole society. The resultant suffering and starvation is, however, not a group phenomenon: its incidence lies with those members in every community who are not in a position to shift the burden. The amount of poverty and the amount and seriousness of hunger and chronic undernourishment increase. The standard of living falls. The period of starvation is extended over a greater length of time. The greatest suffering falls upon the children and, through underfeeding, improper feeding, lack of adequate care, especially in sickness, and other results of rising prices and falling standards, the infant death rate rises or remains at the barbarian level. Starvation therefore is somewhat less direct, is more refined and long drawn out,

[2] However, during the winter of 1921–1922, corn was used as fuel on the American prairies while famine stalked in China, Russia, Armenia, and elsewhere.

and is more easily ignored or overlooked than was the case with the earlier societies, but when the occasion arises it is not less real in European society than in society of the primitive type.

The fact that the modern, civilized societies are limited in their growth by the food situation need not remain obscure. That the modern condition is unnecessary and might be prevented makes it none the less certain death to those who are not in a position to control the means of life. The fact that the social group approves of and tolerates speculation in food and other necessaries of life makes such behavior moral, but it does not alter the fact that people starve as a result of it and that the numbers of the population are affected thereby.

Other Forces Destroying People.—Famine is not the only natural calamity that checks the growth of population. Floods, pestilence, war, civil and military upheavals destroy the natural increase of peoples. The overflow of the Yellow river in 1888 resulted in the drowning or starving of probably two million people in China, though the number is variously estimated up to seven million. The Tai Ping rebellion caused the death of twenty million; the figure is sometimes placed higher.

In Africa a similar group of forces operate to limit increase. The Mahdist revolt in the decade following 1882, with the various wars, famines, epidemics, and plundering expeditions incident to it, resulted, according to Kean's estimate, in the death of six million, about three-fifths of the population. The slave trade has always been a great decimator of African populations. The overland trade is even more destructive than was the earlier maritime slave trade; the majority perish. Miss Kingsley states that executions for witchcraft cause more deaths in Africa than does the slave trade or any other single cause.

Disease in its manifold forms operates at one remove from starvation to limit the growth of numbers. In the form of pestilence it has from time to time reduced populations to a fraction of their former numbers, and smaller groups of nature peoples have in various instances been completely destroyed. Most famines and periods of food scarcity have been accompanied or followed by pestilential disease epidemics. But pestilence is only one way, and perhaps not a relatively important way, in which disease affects numbers. It is an ever-present thing in human groups, and even in modern European society it is the cause of the great percentage of deaths. It is only when particular diseases assume the form of epidemics that they excite popular and official interest.

Disease is not in general a result of overpopulation; it is active in all groups. Its effect is rather to prevent overpopulation. It is true that a redundant population is favorable to the spread of disease because of the condition of the population that is likely to exist. The epidemic, once started, spreads throughout the population regardless of density, though its effects may be more disastrous in the regions of greatest number. It is also true that disease is often the result of food scarcity. This is conspicuously and notoriously the case with regard to the diseases of childhood. High prices, whether due to actual or artificial scarcity, result in inadequate and improper feeding and consequently in organic inability to resist serious disease or even the more trivial ailments.

In the struggle of peoples for pelf or glory there has operated an age-long force checking population growth. This phenomenon of barbarian culture has often come as a result of overpopulation. The group, breeding beyond the bounds of its territory, has pressed upon the domain of surrounding groups, attempted to overrun or plunder

them, or deliberately incited border warfare for the purpose of plundering a weaker or richer group. The motive may not be the food-need of an over-fecund group. It may be mere cupidity, or it may be the desire for glory on the part of a country's militaristic incubus. But whatever the cause, the result is the death of a limited number of young and physically strong men, killed in battle or by disease and exposure incident to camp life, and an indefinitely larger number of deaths through the starvation of non-combatants.

The Industrial Slaughter.—Another factor in the limitation of population growth in the modern social organization is the industrial slaughter. The machine industry, operated for profit, has been characteristically without concern for the social cost of its operation; the human cost falls, not upon the industry, but upon the social group. In consequence there has generally been no serious effort to lessen the human sacrifice. It was recently stated that the number of persons killed by industrial accidents in the United States amount to nine per hour.[3] This is exclusive of accidents resulting in injury but not in death. The figures widely accepted are that the number of deaths amount annually to something over thirty-five thousand, injuries sufficient to incapacitate the person for one or more weeks amount to about one-half million per year, while minor industrial accidents somewhat exceed two million annually.[4] By way of comparison, the industrial accidents of a single year in the United States alone equal the average annual casualties of the Civil War, plus the total killed in the Philippine and the Russo-Japanese War combined. In Germany, where accident preven-

[3] Press Report under date of May 4, 1921, from the convention of the Associations of Governmental Labor Officials of the United States and Canada. New Orleans.

[4] *History of Work Accident Indemnity in Iowa,* p. 1.

tion is more highly developed than elsewhere, the fatal work accidents during the year 1911 amounted to 9,587. In Pennsylvania the number of industrial workers injured in two and one-half years exceeded the total number of the army that that state furnished in the European War.[5]

Infanticide and Abortion.—In every social group forces exist which operate intentionally or accidentally to check the growth of population.

In primitivity with few exceptions infanticide exists as a socially sanctioned institution. The custom varies with the group. In some cases it is confined to female infants, in others to the defective or deformed children. In most ancient societies there were accepted methods for disposing of undesired children. In West European society infanticide is no longer within the mores of the group. As a practice it still remains, especially in the case of illegitimate children and, to a certain extent, in the case of defective and deformed infants.

More usual in the present-day world is the practice of abortion. This is a later refinement of infanticide and, while not absent, is somewhat unusual among the culturally lower races. It was allowed in the Grecian and Roman world as a method of population control. In modern society it is a criminal act to induce abortion and the practice is contrary to prevailing medical ethics. Yet the *Medical Record* estimates that two million abortions are performed annually in the United States. The same authority gives eighty thousand as the number performed annually in New York. Midwives and medical quacks are occasionally punished—about one case in one thousand is brought before the authorities in New York—but the

[5] "Comparative Casualties in War and Industry," *Bulletin of the Pennsylvania Department of Labor and Industry*, No. 2, 1918, p. 122.

practice is very lucrative. Court investigations have shown that there are at least two thousand persons in New York who make a profession of inducing abortion. Abortionist advertisements are numerous and abortifacients are rather freely advertised and sold. Reliable statistics on the subject are of course unobtainable and the estimates of different authorities are wide apart. Lepage says that 80 per cent. of abortions are induced and that there are as many abortions as births in Paris. The records show about 20,000 abortions a year in Paris and there are said to be from two to three times as many "silent abortions" as the number that come to official attention. L. Tissier, a French authority on obstetrics, agrees with the estimate. Royston, on the other hand, puts the number as low as from about 15 per cent. to about 25 per cent. of the number of births. This at least can be affirmed: in spite of its illegal status, induced abortion is a widespread practice. The ratio of abortions to births in America seems to students of that subject to be about one to three.[6]

There are operative in civilized society a group of factors making for a progressive reduction in the birth rate. The pain and distress of pregnancy and child-bearing taken in connection with the growing emancipation of women is a factor of importance. The education of women and their consequent development of other interests

[6] Margaret Sanger, *The Case for Birth Control,* quotes a large amount of evidence from many authorities on the subject of abortion.

"Artificial Abortion in Antiquity," *Medical Record,* 95 (1919), 108.

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makes them less dependent upon child-rearing as an occupation. And with the growth of culture have come various social and psychological causes affecting the birth rate. The operation of these forces making for a lessened birth rate seems destined presently to supersede the action of the primary checks on population. By preventing an excess of life forms from being born, they will make unnecessary the killing of the excess.

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CHAPTER IX

THE BIRTH RATE

The Historic Rate of Reproduction.—The reproductive capacity of mankind, fixed in the species through the selective processes of nature in a primitive or pre-human stage of racial development, is sufficient to insure the perpetuation of the race under the most adverse conditions that it has had to meet. Consequently it is sufficient to insure an increase of the species under any except the most adverse conditions. Under easier conditions of human existence the biological capacity is enormously in excess of the racial need. It has been estimated that in advanced culture groups the capacity is about four times that which is needed in order to maintain the numbers of the race and three times that which is necessary to cause population to increase as rapidly as the food supply can be augmented.

In the earlier stages of human culture, aside from certain sex customs which in some cases operated as an inhibiting force, there was little if any restriction upon the birth rate. Pregnancies followed each other at short intervals throughout the fertile period of the life of the female except as prevented by the prolongation of lactation, and by sex taboos on marital intercourse at certain times. There is no reason to doubt that, during the great part of European history, the biological capacity was exercised without serious restraint. The sex urge is sufficiently imperative to demand satisfaction and men lacked the information necessary to enable them to control the natural consequences. There is little evidence that the

fear of famine or of other calamity resulting from excess numbers operated as a conscious, restricting force. The result was, throughout most periods of European history, a birth rate not far below the racial capacity.

The Trend of the Birth Rate.—A decline from the barbarian rate of reproduction had manifested itself by the latter half of the nineteenth century. The movement in some countries at least had its origin at an earlier date; in America the decline in the size of the family began early in the century. But it was not until later, and at different periods in different countries, that the movement attracted serious attention. The fall was noticeable in France in the decade following 1860. In England and Wales the rate remained above thirty-five until 1880. In Germany there was no marked decline until well toward the end of the century.

While the majority of the countries of European culture for which statistics are available show a great decline in the corrected birth rate,[1] greater in the case of the illegitimate than of the legitimate, there is a considerable variation in the abruptness of the decline, and the point that it has reached shows considerable variation as between different national groups. In England the decline seems to have started about 1880 and dropped with fairly uniform regularity to the 1914 figure of 23.8.[2]

[1] Except when otherwise stated, the "birth rate" is understood to be the ratio between the number of living births in a given period of time and the median number of persons alive during the interval expressed in thousands. Thus, a birth rate of 24 means 24 births per 1,000 of the population. It is in this sense that the phrase is used in United States birth registration statistics. This is often called "the crude birth rate," in contrast with "the refined or corrected birth rate," meaning by the latter phrase the ratio of living births to living women of child-bearing age.

[2] The effect of the war is of course reflected in the figures for the later years. For England and Wales the rate was, 23.8 in 1914; in 1915, 21.9; in 1916, 20.9; in 1917, 17.8; and in 1918, 17.7.

By 1910 the birth rate of England and Wales had fallen to 82 per cent. of what it was in 1881. The rate for Scotland declined 15 per cent. during the same period. It is also probable that a goodly number of births escaped registration in the earlier years. In all the North and West European countries the decline is unquestioned. In Italy and in Eastern and Southern Europe, especially Roumania and Bulgaria, the decline has been less or has not taken place. But the vital statistics of these countries are not in a very highly perfected state.

The relative decline in the birth rate in certain countries of European culture is shown in the following table:

THE BIRTH RATE IN COUNTRIES OF EUROPEAN CIVILIZATION, SHOWING THE AVERAGE RATE FOR THE PEROD 1881–1885 AND THE RATE FOR 1909 AND THE PER CENT. OF DECLINE

Country	Average Birth Rate 1881-1885	Birth Rate in 1909	Per cent. of Decline
Ireland	23.9	23.5	1.6
Spain	36.4	32.6	14.4
Italy	38.0	32.4	14.7
Prussia	37.4	31.8	14.9
Hungary	44.6	37.0	16.6
Victoria	30.8	24.6	20.1
France	24.7	19.6	20.6
Scotland	33.3	26.4	20.7
England and Wales	33.5	25.8	23.0
New Zealand	36.3	27.3	25.5
Queensland	36.5	27.2	25.5
New South Wales	37.7	26.9	28.4
South Australia	38.5	24.7	35.8

It is evident that the decline has in some cases been precipitate. A continuation of the trend here shown also exists in the decade following the period covered by the table. The following figures give the rate for certain countries at the latest dates for which comparable statistics are available:[3]

[3] For later figures for the United States, see p. 136.

Country	Rate per 1,000 Population	Year
France	19.0	1912
England and Wales	20.9	1916
Ireland	21.1	1916
Belgium	22.6	1912
Scotland	22.8	1916
Denmark	24.2	1915
United States (Registration Area)	24.6	1917
New Zealand	25.9	1916
Finland	26.9	1914
Australian Commonwealth	27.3	1915
German Empire	27.5	1913
Prussia	28.9	1912
Austria	31.3	1912
Italy	31.7	1913
Japan	33.3	1913
Hungary	36.3	1912
Chili	37.0	1915
Ceylon	37.0	1914
Bulgaria	40.2	1911
Roumania	42.5	1914
Russia	44.0	1909

These figures in some cases reflect the war conditions but in general represent normal conditions prior to 1914. The rate in some countries is more than double that in others. France occupies the lowest point. There is, however, no reason to believe that the position occupied by France in the table may not ultimately be paralleled by the other countries.

Birth Rate in the United States.—There are no birth statistics for the United States as a whole that are comparable with the European figures. The data gathered by the Federal Censuses do not make possible a satisfactory calculation of the birth rate. But the evidence, while not always comprehensive nor always of a trustworthy statistical order, indicates a decided fall during the nineteenth century. During the colonial and early national period, the average birth rate was approximately 35. It has shown a marked and fairly uniform decline through the major part of the last century.

In 1902 the collection of birth statistics was authorized by a provision of the permanent census act. The figures were to be obtained by the census bureau from the registration records of the cities and states affording detailed and reasonably accurate data. But, because so very few of the states had maintained reliable birth registration systems, it was not until 1915 that a report was issued. This report included data from ten states and the District of Columbia. From this beginning the birth registration area has grown and subsequent reports include a larger and larger percentage of the population. The latest report issued, that for 1919, contains data covering 58.6 per cent. of the total population.

The statistics from these registration areas show a gradual downward trend in the birth rate. The rate per 1,000 of the population was 25.1 in 1915; 25.0 in 1916; 24.7 in 1917; 24.6 in 1918; and 22.3 in 1919. The rate for 1920 shows an increase: the advance announcement from the Census Bureau gives the figures as 23.7.

It is seen from this tabulation that, while it has been falling, the birth rate still exceeds the death rate by 9.3 per 1,000, or by 72 per cent. for the whole area. If these rates were to continue unchanged the population of the areas concerned would increase annually by 9.3 persons per 1,000, exclusive of immigration or emigration. This amounts to a doubling of the population by natural increase in about 107 years. The lowest birth rate, 16.8, is that of California, but even here the rate is well above the highest death rate recorded for any of the states. The rate of natural increase for California, the lowest of the states, is 3.1. The highest rate of natural increase is that of Utah with an excess of births over deaths of 18.3 per 1,000.

The birth and death rates for the states within the birth registration area are given in the following table:[4]

BIRTH AND DEATH RATES IN THE UNITED STATES BIRTH REGISTRATION AREA, 1919[5]

States	Births (Exclusive of Still-births)	Deaths (Exclusive of Still-births)
Birth Registration Area	22.3	13.0
California	16.8	13.7
Connecticut	24.8	13.3
Indiana	20.3	12.7
Kansas	20.6	10.8
Kentucky	24.0	12.8
Maine	20.2	14.6
Maryland	23.6	15.3
Massachusetts	22.9	13.6
Michigan	23.2	12.6
Minnesota	21.9	10.5
New Hampshire	19.8	14.7
New York	21.9	13.9
North Carolina	29.1	12.2
Ohio	19.9	12.7
Oregon	17.4	11.4
Pennsylvania	24.0	13.4
South Carolina	26.6	13.8
Utah	29.3	11.0
Vermont	19.9	14.4
Virginia	26.5	13.7
Washington	18.7	10.7
Wisconsin	20.9	10.7

A similar variation in rates appears when comparison is made between different cities of the area. Six cities show a birth rate of above 30 per 1,000 population. At the opposite extreme one city, Brookline, Massachusetts, shows a birth rate of 8.1, three points below the death rate for the same year. Such figures, however, are well-

[4] *Birth Statistics*, 1919, pp. 7, 8.

[5] It must be remembered that these are comparisons of the general birth and death rates which do not take into account the age and sex distribution and other factors influencing the birth and death rates.

nigh meaningless unless taken in connection with the age and sex distribution.

All of the registration states show a decrease in the birth rate over the 1918 figures. Utah showed the greatest decrease, 3.8, and Maryland the least, 0.3. This decrease has been gradual since the first figures published for 1915. Of the states that were in the registration area in 1915 the greatest decrease since that date has been in New Hampshire, where the decline has been 3.1. Of the cities in the United States with a population of over 100,000 in 1910, only three show a higher birth rate in 1919 than in 1918. The greatest decrease over the 1918 figures is in the case of Worcester, Massachusetts, and Bridgeport, Connecticut; the former shows a decrease of 4.2, the latter a decrease of 4. Over the five-year period the largest decrease was in the case of Scranton, Pennsylvania; the decrease amounted to 8.8. In 1910 there were 110 cities with a population of between 25,000 and 100,000 population. Of these cities only nine showed a higher birth rate in 1919 than in 1918.

The Illegitimate Birth Rate.—The illegitimate birth rate [6] is very different in the separate European countries. A considerable part of the difference is to be accounted for in terms of difference in social customs. But illegitimacy is a legal concept and the laws defining it are far from uniform. Moreover the birth statistics of different countries are of unequal reliability. As a result of these differences, the data cannot be taken as anything more than approximate indications of conditions prevailing in different countries.

[6] The illegitimate birth rate is the ratio between illegitimate births and the total population expressed in thousands.

The following table gives the average annual birth rate for certain European countries divided into legitimate and illegitimate rates based respectively on the total number of married women of child-bearing age and on the total number of unmarried women of the same age group.

Country and Period	Legitimate Live Births per 1,000 Married Women 15 to 49 Years of Age	Illegitimate Live Births per 1,000 Single, Widowed, and Divorced Women 15 to 49 Years of Age
Austria, 1908–1913	219	30
Hungary, 1906–1915	198	38
Belgium, 1908–1913	161	12
Denmark, 1906–1915	191	24
Finland, 1906–1915	230	17
France, 1910–1911	114	16
German Empire, 1907–1914	196	23
England and Wales, 1906–1915	171	7
Ireland, 1909–1912	250	4
Scotland, 1906–1915	202	13
Italy, 1907–1914	226	14
Norway, 1907–1914	224	13
Spain, 1906–1915	218	14
Sweden, 1908–1913	196	26
Switzerland, 1906–1915	184	8
The Netherlands, 1905–1914	233	5

The rate is seen to be lowest in Ireland and highest in Hungary, the rate of the one being nine and one-half times that of the other.

In nearly all countries of European civilization the illegitimate birth rate has declined with the decline in the legitimate birth rate and usually the decline has been more rapid. The following table gives the proportion of illegitimate to the total births at different periods for the chief European countries.

Country	Per cent. of Live Births Illegitimate: Annual Average 1906-1909	1914
Austria	12.3	11.9
Hungary	9.4	8.5
Belgium	6.3	6.4
Denmark	11.0	11.5
Finland	6.9	7.8
France	8.9	8.9
German Empire	8.7	9.7
England and Wales	4.0	4.2
Ireland	2.6	3.0
Scotland	7.0	7.2
Italy	5.1	4.7
Norway	6.8	7.1
Portugal	11.3	11.0
Roumania	8.1	9.2
Russia in Europe	2.3	2.3
Spain	4.6	4.7
Sweden	13.3	15.8
Switzerland	4.4	5.0
The Netherlands	2.1	2.1

As a result of the war conditions, which destroyed family life and concentrated large numbers of men and women under unusual conditions, there was an increase in the illegitimate birth rate. In 1918 the ratio of illegitimate to legitimate births in England and Wales reached the highest point in fifty years. This was due in part, but not wholly, to the fact that the legitimate birth rate was declining. There was an increase of 11.2 per cent. in the illegitimate birth rate of 1918 over 1917.

In the United States the rate is very different in different sections of the country. It is reported as 1.3 per one thousand births in California and 77 per one thousand births in South Carolina. The rate is also very high in Virginia, Maryland, and other states with a large Negro population. The very low rate apparent in California and in some of the New England States is partly to be accounted for by the fact that the birth certificate in these states does not require a statement regarding legitimacy.

The Children's Bureau estimates that a minimum figure for the United States is 32,000 illegitimate white children each year.

The rate is everywhere higher in the urban than in the rural districts. The rate for Negroes is much in excess of that for the whites. The rates for the foreign-born groups in the United States show wide differences. The figures for 1919 show the highest rate, ten per one thousand births for the Canadian-born mothers and the lowest rate, 1.5 per one thousand births for the Italian-born mothers.

It should be noted that the severity of law and public opinion against the unmarried mother seems not to change the number of illegitimates. Relieving the conditions does not increase the number. In Norway, where the unmarried mother is more generously treated than elsewhere, the percentage of illegitimacy has declined.

The Effect of the War on the Birth Rate.—The war exercised a depressing influence on the birth rate. The effect was marked in each of the warring countries though the data available are not sufficient to make possible an accurate comparison. In England and Wales the loss of population caused by the fall in the birth rate due to the war is estimated as upwards of 500,000. The birth rate fell from 23.8 per 1,000 in 1914 to 17.7 in 1918. This fall in the birth rate took place in the presence of a remarkable increase in marriages during the early years of the war. The yearly average of marriages for England and Wales was 275,000 for the period from 1909–1913. In 1914 it jumped to 294,000; in 1915 to 361,000. In 1916 there was a fall to 280,000, and a farther fall in 1917. It is estimated by the Registrar General that 200,000 people were married during the period 1914–1917, who in the ordinary course of events would not have

been. This high marriage rate is apparently reflected in the diminished figures of illegitimate births in the early war period. The birth rate of illegitimate children in 1915 was the lowest on record; the rate for 1916 was lower than the pre-war figure. In the later years of the war there was a marked increase in the rate.

In Scotland the birth rate fell from 26.1 to 20.2 for the period from 1914 to 1918. That of Ireland fell from 22.6 to 19.9.

In France the rate was low before the war. In 1913 it was 19.0 and in 1914 it was 18.0 per 1,000 living. From this figure it fell to 10.4 for the unoccupied departments in 1918.

The fall in the Central Powers can only be estimated from data available for the larger towns. There is little information available concerning other parts of the population. The German Empire probably lost about three and one-half millions from the interrupted birth rate. The official figures for Hungary show 736,256 births in 1913–1914; 710,795 in 1914–1915; 364,438 in 1915–1916; and 330,862 in 1916–1917.

The neutral countries were only slightly affected. In Holland the birth rate was 28.2 in 1914 and 26.0 in 1917; for the same period the rate for Denmark fell from 25.6 to 23.7; that for Sweden from 22.9 to 20.8; and that for Spain from 29.8 to 29.0.

Pearl has calculated the percentage of births to deaths in certain of the belligerent countries for the years of the war.[7] The birth-death ratio he obtained by use of the formula, 100 deaths divided by the number of births occurring in the same period equals the death-birth ratio. The result of his calculation is reproduced in part in the following table:

[7] *Science*, n. s. 51: 553–556.

PERCENTAGE OF BIRTHS TO DEATHS IN CERTAIN OF THE WARRING COUNTRIES

Year	77 Non-invaded Departments of France	Prussia	Bavaria	England and Wales
1913	97	—	58	57
1914	110	66	74	59
1915	169	101	98	69
1916	193	117	131	65
1917	179	140	127	75
1918	198	132	146	92

The death-birth ratio with the single exception of France was low in the years preceding the war. In all of the countries the proportion of deaths to births increased as long as the war continued. In France it more than doubled, and the same is true of Prussia and Bavaria. In England and Wales the death-birth rate showed a similar though less rapid increase.

It is at present impossible to say how rapid or how complete will be the reaction from these war-induced conditions.

The Birth Rate and the Growth of Population.— Aside from immigration, the increase of a country's population is measured by the difference between the birth and the death rates. Consequently the birth rate alone tells nothing in regard to population growth. The decline in the birth rate that has taken place, aside from the sudden depression resulting from war conditions, has not resulted in a decrease of population. Where the birth rate is low, the death rate is also likely to be low; where the birth rate is high, the death rate is also likely to be high. The countries with a low birth rate have in a number of cases a high rate of natural increase. Holland, New Zealand, Australia, and other countries with moderate birth rates have shown a relatively high rate of population increase. Other countries with high birth rates show populations that are stationary or only slowly increasing. France,

among European countries, is the chief exception to the rule. Her failure to increase in numbers has been due to a failure to reduce the death rate as well as to the fact of a low birth rate. The increasing effectiveness of medical, nursing, and sanitary science bids fair to so counteract the declining birth rate that it may, in most countries, continue to fall for some decades at least without giving cause for alarm.

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See, also, "Readings," Chapters X, XI, and XVI.

CHAPTER X

THE DEATH RATE

The Historic Death Rate.—In a stationary population the number of deaths is equal to the number of births. Even a rapidly increasing population may show a very high death rate, while a slowly increasing population may have a lower death rate but a much lower birth rate.[1]

In most stages of human culture very little control was exercised over the birth rate. Children were produced at natural intervals throughout the fertile period of the woman's life. Nevertheless the increase of population was slow and irregular. The conditions of life were hard and its duration short. Only a fraction of the children born survived the period of infancy. On the African West Coast it is estimated that nine of every ten babies born die during the first few months of life.

An indication of the historic rate of mortality is seen in various backward peoples of the present-day world. The present average death rate of the world is probably well above 25 and correspondingly higher among the peoples of retarded culture. In certain provinces of China it is estimated that from seventy-five to eighty-five per cent. of the children born die during early infancy. In 1909 the returns from Hongkong showed the number of deaths of children under one year to be eighty-seven per

[1] By death rate is to be understood "the ratio between the number of persons who die in a given interval of time and the median number of persons alive during the interval," stated in thousands. A death rate of 22 means 22 deaths per 1,000 of the population. G. C. Whipple, *Vital Statistics*, p. 186. Where specific rates are used the fact is so indicated and the use explained.

cent. of the number of births reported during the year.[2] The vital statistics of Manila for the years 1903 to 1911 showed an infant mortality rate of 552 per one thousand births. Similar rates prevail elsewhere. The historic death rate has been such as to maintain a stationary or very slowly increasing population in spite of the high reproductive capacity of the race.

The European Death Rate.—The marked decline in the European death rate is a relatively recent phenomenon. As to time, it very largely parallels the decline in the birth rate; the beginning of the marked decline was in the later years of the nineteenth century. While differing somewhat as to time and extent in the different countries, it has been general throughout the European world.

The following table shows the decline by decades over a period of forty years for eight major European countries:

DEATH RATES BY DECADES, 1870-1910, EIGHT EUROPEAN COUNTRIES.

	United Kingdom	European Russia	Germany	France	Austria	Hungary	Spain	Italy
1870	22.4	....	27.2	24.4	31.9	35.9	30.9	30.2
1880	20.0	....	25.8	22.4	30.7	32.4	30.6	28.7
1890	18.9	35.8	23.9	22.2	28.5	32.8	31.6	26.5
1900	17.6	31.8	20.8	20.7	24.8	26.9	27.9	22.6
1910	14.9	29.8	17.4	19.1	22.2	24.7	23.9	21.1

The lowest rates so far reached in the countries where records are kept are those of Holland, Great Britain, Australia, the Scandinavian countries, and some of the American states. The figures for the five-year period 1906–1910, show the New Zealand rate to be 9.7; that of the Australian Commonwealth to be 10.7; that of Denmark,

[2] E. A. Ross, *The Changing Chinese*, p. 103.

13.7; that of Norway, 13.8; that of England and Wales, 14.7; and that of the registration area of the United States, 15.1. The highest rates are those of Russia and Roumania in Europe and Chili in America. The average death rate of Russia for the five-year period, 1901–1905, was 30.2 per one thousand; the rate for Chili for the period 1901–1908 was 30.4; and that of Roumania for the same period was 25.8.

The Death Rate in the United States.—The annual publication of mortality statistics for the registration area of the United States dates from 1900, though statistics based on the census returns were published as early as 1850. In 1910 the registration area for deaths included approximately forty per cent. of the total population. The latest report, that for 1920, shows 82.2 per cent. of the population included within death registration area.

The crude death rate for the registration area has shown some decline in the period covered by the statistics. The annual average for the five-year period 1906–1910 was fifteen per one thousand of the population. For the years following 1910 the rate per one thousand of the population was as follows:

1911	13.9
1912	13.6
1913	13.9
1914	13.5
1915	13.3
1916	13.9
1917	14.1
1918	18.0
1919	12.8
1920	13.0

The census returns for the entire population also show a decrease in the death rate for the last decade. The figures announced by the Census Bureau February 20, 1922, gave the death rate as 1,306 per 100,000 population

in 1920 and 1,496 in 1910. There has been a decline in all age groups, though the most pronounced decline was in the group under one year. The rate varies considerably from state to state and within the same state from year to year. For 1919 it ranged from 10.5 in Minnesota to 15.5 in Delaware.

The following tabulation of the annual crude death rates for the period 1906–1910 indicates the relative position occupied by the registration area of the United States and certain other countries with comparable statistics:[3]

Country	Deaths per 1,000 of Population 1906-1910	
New Zealand	9.7	
Australian Commonwealth	10.7	
Denmark	13.7	
Norway	13.8	
The Netherlands	14.3	
Sweden	14.3	
England and Wales	14.7	
United States (Registration Area)	15.1	
Belgium	15.9	
Switzerland	16.1	
Ireland	17.3	
German Empire	17.5	
France	19.2	
Italy	21.0	
Japan	21.0	
Austria	22.3	
Bulgaria	23.8	
Spain	24.3	
Hungary	25.0	
Ceylon	30.8	
European Russia	30.9	(1901–1905)
Chili	31.3	

The accompanying table gives the death rate from the more important causes as given in the abridged international list of the causes of death.[4]

[3] *Mortality Statistics,* Twentieth Annual Report, 1919, p. 15.
[4] *Mortality Statistics,* 1920, pp. 17, 18.

DEATH RATES FROM THE 13 IMPORTANT CAUSES OF DEATH IN THE REGISTRATION AREA, 1900, 1910, 1920

Cause of Death	Death Rate per 100,000 Population 1900	1910	1920
All causes	1,755.0	1,496.2	1,306.0
Typhoid fever	35.9	23.5	7.8
Measles	12.5	12.3	8.8
Scarlet fever	10.2	11.6	4.6
Whooping cough	12.1	11.4	12.5
Diphtheria and croup	43.3	21.4	15.3
Influenza	22.9	14.4	71.0
Tuberculosis (all forms)	201.9	160.3	114.2
Cancer and other malignant tumors	63.0	76.2	83.4
Cerebral hemorrhage, apoplexy	67.5	73.8	80.9
Acute endocarditis and organic diseases of the heart	123.1	150.4	149.7
Pneumonia (all forms)	180.5	147.7	137.3
Diarrhea and enteritis (under 2 yrs.)	108.8	100.8	44.0
Acute nephritis and Bright's disease	89.0	99.1	89.4

The Death Rate of the Native and Foreign-born in America.—Such data as are available indicate a considerable variation in the death rate between different race and nationalistic groups in the United States. The investigation of Dublin[5] of the mortality of the chief racial stocks in the state of New York showed the death rate to be appreciably higher for the foreign-born stocks than for the stocks of native parentage. A more recent study on the mortality of race stocks in Pennsylvania and New York bears out the findings of the earlier study.[6] The native-born of native parentage show a lower mortality rate than do the stocks of foreign-born parentage. With the single exception of the Russians, chiefly Jews, the life expectancy is less for the foreign-born than for natives of native parentage.

[5] "Factors in American Mortality," *Amer. Econ. Rev.*, Sept., 1916.

[6] Louis I. Dublin and Gadden W. Baker, "The Mortality of Race Stocks in Pennsylvania and New York," *Quar. Publs. Amer. Stat. Asso.*, March, 1920.

There is likewise considerable variation among the different nationalistic groups. The death rate of the Italians, Russians, and Austro-Hungarians compares favorably with that of the native stock. But the British, Irish, and German stocks show a death rate much in excess of that of the native groups. In the case of the Irish, the rate is about double that of the American-born stocks. Russians have the best expectation, followed in order by Italians, English, Scotch and Welsh, Germans, and Irish.[7]

Not only is the death rate of the foreign stocks higher than that of the native stock; for all except the Russians and Italians the rate is higher among these races in New York than it is in their native countries. A part at least of the high death rate is due to occupational causes and the generally unfavorable conditions of life. But the fact that the rates are higher for the immigrants in America than they are for the countries from which the immigrants come, raises a question concerning the natural vigor of the immigrant people. Dublin concludes that the differences are to be accounted for, at least in part, by the poorer quality of the immigrants as compared with those remaining at home. If his conclusion is correct they do not represent, as is commonly assumed, the more vigorous among their own groups at home.

The Negro Death Rate.—Race is possibly a matter of some importance in its bearing on the death rate. The influence it may have is difficult to distinguish from other factors usually associated with it. The European statistics seldom attempt distinctions on this basis. The chief evidence comes from Australia, New Zealand, South Africa, and the United States. Most of these figures,

[7] Louis I. Dublin, "The Mortality of Foreign Race Stocks," *Sci. Mo.*, 14:94–104.

on their face, point to a low vitality among the backward native or enslaved racial groups. They appear to be peculiarly sensitive to certain diseases, particularly in crowded cities and insanitary surroundings. The differences become more striking as the more favored races are acquiring freedom from certain diseases.

The various studies of the Negroes in the United States show the existence of a very high death rate. The 1910 census reported a death rate of 30.2 and showed the rate to be excessive for both sexes and for every age group. In the registration area of the United States in 1911 the death rate for the whites was 13.7; that for the colored, chiefly Negroes, was 23.7. In some areas the death rate for Negroes is twice that for the whites. The different studies made of the Negroes in the Northern cities show that the death rate is about equal to the birth rate. The increase in numbers of Negroes in the Northern cities is due almost wholly to migration. In 1914 the Department of Public Health of New York City gave the death rate of the Negroes as 26.31 per one thousand as compared to 13.40 per one thousand for the entire city. For certain diseases the death rate is excessive. They suffer particularly from tuberculosis and the venereal diseases. The death rate from tuberculosis of the lungs is about twice the rate for the whites. Among the young people of the race it is about ten times that of the whites of the same age group. For the birth registration area in 1919 the infant mortality rate was 86.6. The Negro children had a rate of 134.3.

It is doubtless true that there is less immunity to certain diseases among the Negro people and that the mortality rate is in consequence higher, but the main explanation lies without doubt in differences in economic and social conditions rather than in race. In the age

groups under twenty years the mortality of the colored population is more than double that of the white and this is due primarily to factors other than those of race.

The Negroes show a greater immunity to several important diseases. They are relatively immune to measles, scarlet fever, and diphtheria. In spite of unfavorable environmental conditions, the cases are fewer and the death rates from these diseases are lower than among the whites. The figures of the industrial department of the Metropolitan Life Insurance Company[8] show the death rate from measles for the decade ending in 1920 to have been 8.9 per 100,000. For the colored children the rate was 4.8. The diphtheria figures for the same period were 25.1 for the white and 8.4 for the Negroes. The death rate from scarlet fever was 7.6 for the white and 1.6 for the colored. The figures for the registration area of the United States correspond closely with the insurance figures. In the army the incidence of disease among white and colored troops showed the greater frequency of these diseases among the white troops. The Negroes also show greater immunity to other diseases with definite skin manifestations. Their immunity lies in part in a capacity to resist infection. Once attacked, the diseases are frequently more severe in the Negroes and the fatality rates higher. The Negroes also show a somewhat greater immunity from attack of metabolic diseases.

Urban and Rural Death Rates.—In the United States the death rate is in general slightly lower in the rural than in the urban districts. Practically two-thirds of the population is covered by death registration statistics. The annual death rate for the decade following 1900 was 15.8.

[8] *Statistical Bulletin*, Vol. II, No. 11, Nov., 1921. "Relative Immunity of Negroes to Certain Diseases."

In the registration cities it was 16.8; in the registration states, 15.5; in the cities of the registration states, 17.0; in the rural parts of the registration states, 13.8; and in the registration cities in other than registration states it was 16.5.

In 1890 the average death rate in cities of the registration area of the United States was 22.1, while in the rural it was 15.3. In 1913 the rate in the cities within the registration area had dropped to 15.1 and the rate in the rural districts to 14.1. The marked difference existing in 1890 had mostly disappeared.

The infant mortality rate in the United States as elsewhere remains lower in the country districts. In 1919 the infant mortality rate was 89.3 for the cities of the birth registration area and 84.1 for the rural part of the area. The rate for the cities is higher than that for the country for seventeen of the twenty-seven causes or groups of causes of infant deaths.

Several factors favor the cities in the reduction of the death rate. The increase of sanitary precautions and the development of preventive medicine account for much of the decline. But the migration to cities, by affecting population distribution, has also favored the cities. They contain about the same percentage of children, among whom the death rate is high, as do the rural districts. But the percentage of old men is considerably less and the percentage of women is higher. Many of the cities because of large immigration as well as because of internal migration contain a disproportionate number in the healthier years of life. These things tend to mask any real difference that may naturally exist between an urban and a rural death rate.

Occupation and Social Status.—The influence of occupation on the rate of mortality is very marked. The

matter is just beginning to be adequately realized. The number of persons killed by industrial accidents in the United States alone exceeds one hundred a day.[9] The total of accidental deaths in the United States exceeds 80,000 per year. More important than the number killed is the number whose lowered vitality and premature death is due to the nature of the occupation or the conditions under which it is carried on. The excessive heat, light, or humidity of certain occupations, the irritant dusts, gases, and fumes of others, affect the mortality rate. In some cases the occupation involves work with harmful substances—lead, arsenic, and the like—and gives rise to a group of occupational diseases. Insanitary conditions of work leave their impress on the workers and their record in the disease and mortality statistics.

A marked difference exists in the death rate of different social classes. The rate is everywhere lower among the educated and the economically prosperous, and the fall in the rate has been greatest among the better circumstanced and the better informed. They live a more protected and a less strenuous life. They live in more sanitary surroundings; they are better nourished; and they have the advantage of more adequate and more highly skilled medical and nursing attention. The influence of social status is particularly marked in the case of the infant death rate.

The Infant Death Rate.—There is at all times and places a considerable mortality among infants. The rate[10] varies within rather wide limits: the range for the civilized countries of the world is from about ninety to about

[9] Bulletin, U. S. Dept. of Labor, No. 78, 1908.

[10] The infant death rate is the ratio in a given place between infant deaths in a year and infant population. Infant mortality is the ratio between the number of infant deaths and the number of births in a year.

three hundred infant deaths for each one thousand births. It is perhaps impossible to state a normal rate of infant mortality, but if all children were well born and properly cared for the rate would be almost negligible.

The difference in the rate is one of the outstanding population differences between countries and between social classes within the same country. In Norway, Sweden, and Ireland, the rate is low: of each hundred babies born ten die before the end of the first year of life. In Prussia, Bavaria, and Russia, the rate is high: twenty-five babies out of each hundred born die before the end of the first year of life. In the United States the rate varies widely: in Massachusetts the number of infant deaths is about one-seventh of the number of births; in New Orleans, for the Negro population, about one-third of the babies born die before the end of a year of life. For the birth registration area, one of each twelve infants born die before the age of one year. In 1919, 147.4 of each one thousand deaths in the registration area was of infants under one year, and 209.6 of each one thousand were of children under five years.

The infant death rate, owing to better care of children, has shown a marked decline in the twenty-year period covered by the death registration statistics. In 1910 the deaths under one year were 20.7 per cent. of the total deaths. Those under five years made 34.4 per cent. of the total. In 1919 the corresponding percentages were 14.7 and 21.0. In 1920 there was a slight rise over the preceding year.

The infant deaths per one thousand births were, in 1914, 105 in England and Wales, 111 in Scotland, and 87 in Ireland. In 1918 the rate had fallen in each case: that for England and Wales fell to 97, that for Scotland to 100, and that for Ireland to 86. A part of this fall

seems to be due to war-time restrictions on the sale of alcoholic liquors.

The infant death rate for certain countries is shown in the following tabulation. The table shows the deaths under one year, divided by sex, per one thousand births, according to the latest published statistics.

Country and year of statistics	Infant mortality rate	
	Male	Female
U. S. (Registration Area), 1919	95.8	77.0
Australian Commonwealth, 1919	76.3	61.7
Austria, 1913	204.2	174.6
Belgium, 1912	132.1	107.2
Bulgaria, 1911	166.1	145.7
Chili, 1918	260.9	248.2
Denmark, 1918	81.8	65.6
England and Wales, 1918	107.9	85.9
France, 1913	122.7	101.7
German Empire, 1914	177.1	149.2
Hungary, 1915	281.9	244.6
Ireland, 1918	95.7	76.6
Italy, 1916	174.5	157.7
Japan, 1916	178.9	161.2
The Netherlands, 1917	63.6	49.9
New Zealand, 1918	53.6	43.0
Norway, 1916	71.0	56.6
Prussia, 1914	177.1	150.2
Russia, 1909	264.9	236.9
Scotland, 1918	111.7	87.4
Spain, 1915	165.7	145.3
Sweden, 1915	83.8	67.4
Switzerland, 1918	96.9	79.1
United Kingdom, 1918	107.1	85.1

There seems to be a well-established correlation between the earning power of the parents, their economic status, and the rate of infant mortality. The various studies of the Children's Bureau on Infant Mortality bring out this point. In Saginaw, Michigan, the rate was found to be highest, 179.5, for infants whose fathers were in the lowest earning group and decreased, as the earnings increased, to a minimum of 22.2 in the highest wage class. The study in Waterbury, Connecticut, showed the same

regular decline in the infant mortality rate as the father's earnings increased. In Paris the rate is said to vary from 151 in the poorest districts to 51 in the richest. Similar facts have been found wherever the matter has been investigated.

The Relation of the Death Rate to the Birth Rate.—It often happens that a high birth rate is accompanied by a high death rate, or a low birth rate and a low death rate may occur together. There seems not, however, to be a direct causal relation between the two.[11] Where there is a high birth rate, the distribution of the population into age groups is of course affected. The number of deaths will increase as the number of infants increases, but this is a matter of the number of deaths rather than the death rate of infants. The group with a high birth rate, however, is likely to have an age distribution that is low, that is, to contain an excessive number of children and young people with a normally low death rate. The high infant death rate is thus likely to be offset by the low death rate of the large number in the safer years of life.

In the old and long-settled districts the rule is that the birth rate will be high where the death rate is high. But the converse, that the birth rate will be low when the death rate is low does not follow: countries frequently have a moderate or even a high birth rate and at the same time a low death rate. A high death rate frequently goes with a high birth rate because both are characteristics of poverty, ignorance, and proletarian conditions of life. The same conditions that favor excessive fecundity make inevitable a high rate of mortality.

The Death Rate of Illegitimate Children.—The relation of the infant death rate to the conditions surrounding

[11] See the statement in the First Annual Report, 1915, of the United States Bureau of the Census, *Birth Statistics*. p. 17.

children is strikingly brought out by the death rate of illegitimate children. Public opinion and the mass of bastardy legislation systematically penalize not only the unmarried mother, but also her illegitimate child. The purpose of such legislation is to discourage, by disgrace and hardship, a type of birth that the community does not want. The English law, for example, goes to the extent of refusing to legitimate the child of unmarried parents who subsequently marry. The result of this severe treatment has been to increase still-births and abortions to about double the average rate of other populations and to lessen the chances of survival of the illegitimate child born alive.

Most of the European countries recognize the bearing of illegitimacy on infant mortality and furnish comparative statistics on the deaths of infants born in wedlock with those born out of wedlock. In all cases the death rate is higher for the latter. In Norway for the five-year period 1910–1914 the mortality of infants born in wedlock was 62; the corresponding rate for infants born out of wedlock was 122. The annual report of the Registrar General of England and Wales for 1915 gives the death rate for legitimate infants as 105 per one thousand births as against 203 per one thousand for infants of illegitimate birth. In New South Wales in 1916 the comparable figures were 63.9 and 145.9. The illegitimate child has about one-half the chance of living out the first year of life that is had by his more conventionally conceived brother.

The decline in infant mortality has been in approximately the same ratio for infants of legitimate and illegitimate birth. The figures for England and Wales, for example, give an annual average of deaths under one year per one thousand live births for 1912–1914 as 200.4 for illegitimate and 98.3 for legitimate infants. For the three

years following the corresponding rates were 195.8 and 94.1. Both rates have fallen though the relative difference has remained unchanged. The statistics of Leipzig show a mortality rate for infants of legitimate origin of 222.5 in 1904 and 127.2 in 1913. The rates for infants born out of wedlock were 334.3 in 1904 and 194.1 in 1913. Statistics of other cities and countries indicate that the fall in infant mortality has not greatly changed the proportion of deaths between legitimate and illegitimate children.

Comparable statistics of comparative mortality rates between illegitimate and legitimate infants are not obtainable for the United States nor for any of the states. Because of inadequate birth registration it is not even possible to state the actual number of illegitimate births. As already noted, the Children's Bureau estimates the number born out of wedlock in the United States to be at least 32,000 white children each year. Not over seventy per cent. survive the first year of life. In Boston in 1914, the death rate of infants of legitimate birth was 95 per one thousand. The rate for illegitimate infants was 281 per one thousand; a ratio of about three to one. The Baltimore study found the corresponding rates to be 95.9 and 315.5: the death rate was three and three-tenths as great for illegitimate as for legitimate children. The 1913 Report of the Health Officer of the District of Columbia gave the rates for white children for the preceding year as 79.7 for legitimate and 302 for those born out of wedlock.

Inasmuch as the causes that produce an excessive death rate among infants also produce a high damage rate among the survivors of the first year of life, this excessive mortality of illegitimate children tends to a deterioration of the quality of the population. There is a very widespread belief to the contrary, a belief that the heavy death

rate in the first year of life is a selective process.[12] The weak and the unfit are said to be eliminated and so there is a lessened mortality in the next few years of life. The figures, however, seem in general to contradict rather than to bear out the belief. The following figures of the death rates in England and Wales illustrate the trend. A lessening of infant mortality is accompanied by lessened mortality in the following years.

DEATH RATES, ENGLAND AND WALES BY FIVE-YEAR PERIODS, 1871–1914

Periods	All Ages	Under 5 Years	Deaths Under 1 Year per 1,000 Births
1871–1875	20.9	64.9	153
1876–1880	19.8	61.9	145
1881–1885	18.7	56.6	139
1886–1890	18.5	56.9	145
1891–1895	18.5	57.8	151
1896–1900	17.6	57.6	156
1901–1905	16.0	50.2	138
1906–1910	14.4	41.7	117
1911–1914	13.5	37.3	109

A condition that produces a heavy infant mortality leaves a large number who escape death so weakened and injured as to increase disease and defectiveness and so to increase the death rate in later years. There is little justification for the widespread opinion that a high infant death rate is a selective agency. There is inadequate ground to believe that infant mortality destroys the weak and unfit infants in markedly higher percentage of cases than it does other infants, or even to believe that weakness in infancy is very highly correlated with weakness in later years of life. A high rate of infant mortality, whether of legitimate or of illegitimate children, is a form of

[12] See Paul Popenoe and R. H. Johnson, *Applied Eugenics*, pp. 120ff. and 413ff., for a statement of the position and citation of opinion favorable to the idea.

infanticide; it is a method of preventing a redundant population, but an essentially barbarian one. It is not a means for improving the quality of the population stock.

The Future of the Death Rate.—The possible decline in the death rate is rather narrowly limited. If the average of life is seventy years, the death rate should approximate fourteen per one thousand. In China, with an average birth and death rate of probably fifty per one thousand, the average span of life is about twenty years. A society with a death rate of thirty-five would have an average span of life of under thirty years. If the death rate be reduced to twenty, it would mean an average life of fifty years. A death rate of twelve means an average age of over eighty at death. If it be reduced to ten, it would mean that every child born would live to be one hundred, or if some died younger, others would need to live longer.[13]

It is evident that a death rate of approximately nine as in New Zealand, or of approximately ten as in the Australian Commonwealth, cannot long be maintained. Such rates, in the absence of a large immigration of persons in the safer years of life, are destined to a present rise. It is equally evident that a death rate of twenty-five or thirty is excessive and that such rates will fall rapidly with the extension of education and the introduction of modern methods of sanitation.

The point to which the death rate may be reduced is not definitely fixed. It is probable that the point is not the same in different racial groups. It is also likely that there will always be differences due to climatic and geographic conditions. Every reduction in the death rate beyond a certain point is made at a greater cost and effort.

[13] This of course implies that the death rate is not affected by migration.

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See, also, "Readings," Chapters VIII, IX, and XVII.

CHAPTER XI

THE FALLING BIRTH RATE AND THE PROBLEM OF NUMBERS

Fears Aroused by the Behavior of the Birth Rate.—The recent behavior of the birth rate of European countries has attracted wide attention and both scholarly and popular writers have undertaken to analyze its causes and explain its significance. It has been heralded as an evidence of advancing culture and pointed to as a proof of racial degeneracy and decline.

Many writers have interpreted the rapid decline as an occasion for rejoicing. It seems to presage a social situation in which the number of the people will not exceed the available supply of food, and so to foretell a present decline in poverty, ignorance, misery, and other consequences of population redundancy. It seems also to promise an era of peace among the nations by relieving the pressure of population, an age-long cause of strife among peoples.

Other writers have been able to see only disaster as the final outcome and have drawn a gloomy picture of a declining race and a decadent civilization. Like many of the optimistic writers, they have frequently assumed that a declining birth rate is tantamount to a declining population. It is feared that a declining or slowly increasing population will slow up the economic and material advance, or bring about a denationalization or a social retardation through the introduction of an immigrant labor supply. Others have pointed out the dangers to national existence inherent in the differential increase as

between countries in a world so largely dominated by materialistic and nationalistic ideals. Other social students have emphasized the danger of population degeneracy that appears as a result of the selective nature of the decline.

The Assumption of a Fecundal Decline.—Explanations of the phenomenon are varied and ingenious. No possibility seems to have been overlooked nor to be so inherently improbable as not to have found champions. A mere catalogue statement of these explanations would be tedious and unprofitable and no enumeration will be given here. In general they fall into two groups according to whether the type of explanation runs in direct and physiological terms or in indirect and social terms.

Reference has been made in an earlier chapter to some of the more widely known theories of population. These general theories are in part an attempt to account for variations in fecundity. Doubleday held the idea that the effect of overfeeding was to lessen fertility. Sadler undertook to explain the birth rate in terms of density of population; an echo of this is frequently heard in the present-day discussion of rural and urban birth rates. Delaney advanced the explanation that fecundity is inversely proportional to intellectual and cultural development. Darwin believed that there was a direct repressive influence exerted on the human reproductive system by the changed conditions and increased complexity of civilized over savage life. Spencer formulated a law to the effect that, as a necessary corollary of evolution, the increasing intellectual and moral development of the race is accompanied by a correspondingly diminished fertility. There is still a wide popular acceptance of some variation of the biological law of population. Even Nitti's statement runs to the effect that the inferior races are very

prolific while the superior races have a naturally low birth rate.

The use of the biological hypothesis to explain variation in the birth rate is open to two major objections. There seems to be no evidence to support the theory that there is an inverse relationship existing between the cerebral development of man and his capacity to procreate. The theory also goes on the assumption of a biological cerebral superiority of civilized over barbarian races. Evidence necessary to support such assumption is not forthcoming. The great currency of the idea seems to be due to the failure to realize that civilization is a psychological and social process and not a biological one.

As a corollary to the supposed biological law, there is the frequent assertion that the capacity of women to bear children is in some way affected by education and the intellectual pursuits. There is no doubt that college-trained women marry later in life on the average than non-college women, that they exercise somewhat more discretion as to whom they will marry, and that a larger number of them remain unmarried. This postponement of marriage may reduce the average output of children, but the fertility of college women does not differ materially from that of other women of a similar social class. In a general way the girls who go to American colleges are physically stronger than the non-college girls; if there is any difference in fertility, the college girls are probably the more fertile; they are of a somewhat better physical type.

The existence in the nation's life of such diseases as syphilis and gonorrhœa is frequently advanced as an explanation of the declining birth rate. Meat-eating is asserted to lessen the number of impregnations. Tobacco is said to have a repressive effect. Alcohol is frequently

cited as a causal factor. It may be admitted that some of these things affect the population increase by increasing the infantile death rate, increasing the number of abortions, still-births, miscarriages, and in some cases causing partial or complete sterility. It is a well-known fact, for example, that gonorrhœal infection renders conception less likely, and that it is also a cause of miscarriage. Syphilis, while less often the cause of a failure to conceive, is more often the cause of abortions and still-births; perhaps a third of the latter are due to syphilitic infection.

It is not profitable to pursue this type of explanation. The fundamental assumption, namely, that the falling birth rate implies a failing physiological capacity, seems to be an invalid one. The simple fact is that there has been advanced no evidence to show that any widespread diminution in procreative power has taken place. The human animal is in all probability as fertile today as at any period of human history. The effort to account for a falling birth rate in terms of decreased ability where there is no evidence of decreased ability is not profitable.

Sex Ratio and the Birth Rate.—A possible explanation of the decreased number of births runs in terms of a changing ratio of the sexes, and especially of the proportion of women of child-bearing age in the social group. There are doubtless groups suffering from a dearth of marriageable women and showing a low birth rate in consequence. In certain of the Western states, for example, this condition seems to prevail; a paucity of marriageable women is indeed generally a condition in newer regions and in regions where frontier conditions prevail. In other places disturbed sex ratios result from immigration, internal migration, industrial segregation, and the like, and these doubtless affect marriage and so the birth rate. The class and racial prejudice and segregation

so general in the present era frequently operate to farther disturb the normal sex distribution by closely limiting the intermarrying groups; an excess of men of an immigrant class, for example, does not relieve the condition created by an excess of native-born women.

But in the case of any very large group, this explanation is obviously inadequate. Women are in excess of men in nearly every European state. Moreover, the proportion of women of child-bearing age in the population has shown little change during the period when there has been a falling birth rate and it has increased in some countries where the birth rate has shown a marked fall. Newsholme[1] points out that in 1871 there were 231 women of child-bearing age per one thousand of the total population of England and Wales. In 1881 the ratio was unchanged. In 1891 it had risen to 238 per thousand, and in 1901 there was a farther rise to 250. In view of this fact the decline in the birth rate in England and Wales cannot be attributed to a decrease in the proportion of marriageable women. The same conclusion seems to be equally applicable to most other countries of European culture.

Marriage and the Birth Rate.—Since the great proportions of births under the present social conventions take place within the marriage relation, any change in the marriage rate may be of importance in consideration of birth rates. It is the number of wives rather than the number of women that is significant. A decline in the marriage rate lowers the proportion of married men and women in the group, increases the proportion of celibacy, and reduces by so much the likelihood of legitimate births.

But aside from local and temporary fluctuations, there has been no change of consequence in the marriage rate in

[1] *The Declining Birth Rate*, p. 17.

recent decades. Newsholme[2] points out that in England and Wales in 1871 the number of wives between the ages of fifteen and forty-five was 115 for each one thousand of the total population. In 1881 the proportion was 113; in 1891 it was 112; in 1901 it was 117. This would indicate that the declining birth rate of England and Wales is not to be explained by citing a lowered marriage rate as a cause. Thompson[3] failed to find any change in the marriage rate of sufficient magnitude to account for a change in the birth rate. He concludes that the number of people marrying today is no less than formerly; that such changes as occur in the marriage rate are local and temporary and show no tendency; and that the changes in the marriage rate are without significance as a cause of the decline in the birth rate.

The change in the duration of marriage probably exercises some slight influence on the birth rate. The amount of divorce has steadily increased, especially in the English-speaking world. Moreover, divorced people do not remarry as regularly as was formerly the case. This type of celibacy, however, is not sufficient to account for any appreciable percentage of the decline in the birth rate.

The age at which marriage takes place is important in relation to the birth rate. The fertile age of woman is practically limited to the thirty-year period between fifteen and forty-five years of life. The age of the father is a matter of less consequence, though youth in the husband seems to be reflected in the birth statistics. Approximately one-half of the children born are born to fathers and mothers under thirty years of age.

The age of marriage, however, is a conceivable rather

[2] *The Declining Birth Rate*, p. 17. But see, also, a conflicting statement in his *Vital Statistics*, p. 60.

[3] *Population: A Study in Malthusianism*, p. 96.

than an historic cause of the decline. There has been some slight increase in the age of marriage in England. The average age of spinsters at marriage was 25.08 years in 1896; in 1909 the average age had risen to 25.73 years. The average age of the Massachusetts bridegrooms for the five-year period ending 1886 was 29.0 years; for the five-year period ending 1911, it was 28.9 years. The age of brides for the same periods was 25.3 years and 25.7 years, respectively. Of those marrying for the first time, the age of the bridegrooms was 26.7 and 27.3 and the age of the brides was 24.0 and 24.3 for the two periods. This is a difference too small to exert any appreciable influence on the birth rate. For the state of Michigan, Thompson [4] shows the same thing to be true. There is a slight increase in the age of marriage, greater in the case of women than of men, but not sufficient to exert any appreciable influence on the birth rate.

Whatever retardation there may be in the age of marriage it is inadequate to account for more than a minute proportion of the decline in the birth rate. The relation is apparently not a causal one, but both the occasional postponement of marriage and the limited birth rate are to be understood in terms of the same cause. The fall in the birth rate is not the result of a change in the age of marriage nor in the marriage rate, but is due to the smaller number of children per family.

Knowledge of the Means for Preventing Conception.—It is possible that some minor part of the decline in the birth rate is to be accounted for in physical and biological terms. Another fraction may be explained through changes in the age, duration, and rate of marriage. But this order of explanation is wholly inadequate to account for any appreciable portion of the decline.

[4] *Op cit.*, pp. 97ff.

The cause appears to be an absolutely simple and obvious one. There is exercised a conscious control over numbers; the decline is due to the fact that people deliberately choose to limit the number of their offspring and have sufficient knowledge of the technique of birth control to realize their desire. The birth rate is an individually controlled phenomenon and its rise and fall is to be explained as the volitional act of individuals. To seek the explanation in pathological biology or elsewhere afield is not necessary. It is a psychological and social phenomenon and there is no need to seek explanation beyond the desire and knowledge of individuals.

The Bradlaugh-Besant trial in 1878 gave wide publicity to the idea of birth control and made known some means to its realization. From that time, at least, there has been an increased spread of this knowledge throughout the civilized world. The knowledge came first to the educated and socially superior classes, but has gradually spread downward through society. The dissemination of information in regard to harmless methods of preventing impregnations has been assisted by governmental agencies in some countries and bitterly opposed in others. But the information is of such importance to social and individual welfare that it has spread rapidly until, among the cultured classes and even among those with only an indirect access to the benefits of modern science, some preventive methods and some contraceptive devices are matters of common knowledge and use.

In America there have been and still are various state and national edicts designed to prevent the spread of birth control information. Physicians and nurses are, in general, forbidden to give such instruction and, in the case of many of their patients, many of them doubtless keep within the law. By a ruling of Federal authorities such

information is classed as obscene and so barred from the mails. A chief effect of these laws is to prevent the information from being given in a decent way and by properly qualified physicians and nurses. This has stimulated its vulgar and illicit spread: information, of a kind, as to how not to have children is one of the freest commodities in the American life in spite of various penal regulations to the contrary. Practically every American drug store deals in and freely advertises at least some forms of contraceptive devices.

Quite aside from the question of source or desirability of such information, there seems no reason to doubt that it is widespread among literate people. If it be granted that a knowledge of means for controlling impregnation exists, the only other fact calling for explanation is the practice itself; the reason why people desire to limit the size of their families.

Reasons for Limiting the Size of the Family.—The control of family numbers is an individual phenomenon and consequently the specific reasons for limitation may be as numerous as the families concerned. Indeed, when note is taken of the reasons given or the motives assigned, they are found to be almost indefinitely great in number. In quality the motives attributed run the whole gamut from the most noble, pure, and altruistically ideal to the most base and selfish. The specific reasons differ somewhat with different social groups and classes as well as with different individuals in the same social class, but the fundamental conditions are not greatly different and the reasons differ more in statement than in reality.

Historically, children have come as an undesigned result of sex satisfaction. The periodically recurring call of this appetite is sufficiently imperative in normally constituted persons to bring about the association of the

sexes which presently leads to its satisfaction. Pregnancy and childbirth follow as a physiological consequence. The presence of the child serves to localize the diffused protective tendency which appears to be a primary trait of the human animal, and the intimate association of the mother and child results in the growth of affection. It is thus not a desire for parenthood that lies back of childbirth, but a physical craving the end results of which are not controlled. So far as a desire for parenthood exists it is largely a socially engendered thing, which requires constant stimulation and so varies with the historic situation. The desire for family and offspring in the average person seems to be of exactly the same order as the desire for other possession and rises and falls with changes in the group valuation.

Family and offspring are frequently opposed, or thought to be opposed, to the realization of other life desires. In such case, if the desire for other things exceeds the desire for children and parenthood, the children will be sacrificed. If the sex need of the individual exceeds the social desire for personal success, and the means for controlling the consequences of sex life be not understood, a family of children may appear. But if knowledge of means of family control be at hand, the sex need of the persons may be satisfied without their being hampered by children in the realization of desires that may outweigh the desire for offspring.

The Economic Burden of Children.—Among the poorer classes an outstanding reason for the desire to restrict the birth rate is the terrible penalty for having children. The income of the laboring classes is fluctuating and insecure. They live always in poverty and always with a reasonable fear of physical want. Considering the average amount of employment, the wage of a large per

cent. of the adult male workers is wholly insufficient to provide a family with the necessaries for an efficient life. The economic conditions of life make it necessary that the labor of the wife supplement the wage of the husband. The woman who must go from her home to work finds a child or children a hindrance to her and so to the family income. There is a hesitancy, aside from the essentially human one of adding to the burdens of an overworked wife, about depriving the family budget of the item which comes from the wage of the wife.

In the group of workers a step removed from the daily danger of physical want, the difficulties of living are still too great to make attractive the idea of increased family responsibility. The felt wants, the minimum of decent existence, have grown faster than the command of the means to satisfy these wants. Though doubtless affected by other than strictly economic considerations, it is nevertheless true that pressure on the means of subsistence is the chief factor which determines the workers, when a knowledge of the means of control is available to them, to restrict the size of their families.

With the constant increases in the price of food, the rise of rents, and the growing difficulty of obtaining suitable living quarters for a family of children at any price, there has come a growth of popular education and enlightenment which has made increasing numbers of the working classes ever more conscious of the poverty and insecurity of their lives. Child-rearing under the modern proletarian conditions of existence is an almost impossible phenomenon, and every step in the enlightenment of the workers makes them more keenly aware of it and reinforces the tendency toward family restriction.

In the American situation, at least, the changing status of the child has a farther depressing effect on the birth

rate. The age at which the vital strength of the child may be exploited has risen and this limits somewhat the financial return that may come from the child. This restriction on child labor, together with the lengthened period of compulsory school attendance, makes the child a yet greater economic burden and destroys whatever attractiveness a large family has when viewed from the point of view of certain group mores. The increasing regard for child life, its nurture and education, frequently makes the single child a serious care and a large family an unsupportable burden. Because of these considerations, strongest in those who have the keenest sense of parental responsibility, the economic burden of children is great, and greatest with those who most care to train and educate them.

It is not alone among the laboring classes that the family of children is a serious financial burden. The burden may not appear so much in the form of a wage inadequate to support an increase of life as in the fear of economic disability. A given income will yield more to all concerned in security, welfare, and satisfaction if the numbers are small. It is not possible for the young couple of the better type and limited income to have children without sacrificing other things which are of vital importance. When the social position is such that the individual has reasonable hopes to rise or fears to fall, the size of the family is likely to be restricted. Whether this conduct be attributed to a selfish love of luxury, desire for comfort and economic security, vulgar ambition, or otherwise held blameworthy, or be praised as prudence, proper pride, desire for social and self-improvement, it does lead to family restriction.

Other Reasons for the Desire to Limit the Size of the Family.—But aside from the economic burden which

bears with such insistent force on large groups of the population, there is another phase of the situation in modern society that acts even more powerfully to limit the family increase.

The rearing of a family of children requires the expenditure of an immense amount of time and energy. For this reason the young couple of the professional classes frequently think themselves forced to choose between a numerous family and professional and personal success. The determination to limit the family does not imply the absence of a desire for motherhood or fatherhood. It is simply an evidence of the insuperable handicap which a highly artificial organization of society throws in the way of the increase of its better classes. Children are handicaps to the ambitious. The absence of children makes possible the higher standards of living and increased chances of professional success.

The rising standard of comfort, incident to increasing civilization, and the possibility of increasing the pleasures or decreasing the discomforts of life acts as a powerful repressant on the size of the family. There is an increase in the amount and the quality of the pleasures necessary to a tolerable existence; civilization brings increased desires. And at the same time it has increased the number of possibilities for a pleasurable use of time. To the family in the modern world there are many attractions competing with the desire for parenthood, and the very existence of these makes the child in the home less needful and at the same time makes the presence of the child more of a burden; his presence deprives the modern family of pleasures that earlier had no existence. At the same time the rising standard has increased the parental responsibility toward the child. The child makes more of a demand upon the modern parent of the better classes; there is less

inclination to leave him to his own devices or to the attention of an ignorant nurse as parents come more to realize that the early and close environment are the factors that determine the child's future. The modern intelligent parent gives more attention to the child and gives it at the sacrifice of a larger number of and more attractive competing attractions than was formerly the case.

The Changing Ideal of Woman and Family.—The changing attitude of and toward women in the present-day world is likewise an important consideration in determining the size of the family. The earlier ideal of woman as a self-sacrificing, hard-working, child-bearing animal practically devoid of mental life, a faithful servant to the man who assumed her support and guardianship, and with no interests outside of the home, shows signs of disintegration. There have come to exist for women alternatives to living in the home and being kept on the income of a man. With the enlarged liberty and the growing economic independence of woman there has come to her the possibility for expression in life of the long-suppressed individuality of womankind. To the extent that she becomes a free personality, capable of independent thought and with an ability to order her own life, the old dogma that she is debarred by nature from any except the pursuits and interests that centre in sex and motherhood becomes untenable. Her interests and capacities are seen to be as wide and varied as are those of man; sex is but one of her normal desires and motherhood but one of her normal interests. So with the growth of freedom and its consequent differentiation, there has appeared a body of women whose other interests outweigh whatever natural desire they may have for children.

Within the marriage relation, the attitude of women toward child-bearing is becoming an increasingly impor-

tant factor in the case. With the acquisition of freedom and the consequent ability to feel and think in terms other than the conventional maxims, there have appeared a surprisingly large number of actively intelligent women to whom the slavery involved in child-rearing does not appeal as a life vocation. A single child, that she may not miss the experience and personal development that goes with motherhood, is the limit of her family desires.

Partly as a result and in turn a further cause of a lowered birth rate, is the changing ideal of the family. Not long since early marriage was looked upon as the right and natural thing. The boy and girl, while little more than children, were allowed, even encouraged, to marry and fill the new-founded home with a brood of children as fast as nature provided them. Their maintenance was no problem to the father and their bearing and rearing was the purpose and the duty of the wife. This attitude has undergone considerable modification. The child marriage is no longer generally held as an ideal, and the sex-excited adolescents are more often restrained than encouraged to mate and reproduce. After marriage, the young people are not so often congratulated on the production in quick succession of a brood of children. More often they are censured, their affliction regretted, or they are made the butt of neighborhood jest. This social censure, pity, and ridicule is sufficient, with all but the more ignorant and brutal, and with the rare couples who really desire a considerable family and regulate it according to their own desires rather than according to the wishes of the mob, to cause some degree of conformity to the social standards.

The changed spirit of the times in this respect may be seen clearly reflected in the popular art of the day. The popular literature is less prone than formerly to picture

the numerous family as the social ideal; the house full of children is more often pictured as the concomitant of dirt, disease, poverty, ignorance, and general proletarian existence. On the stage the popular play is by no means infrequently the one that pictures the husband as a fool and the wife, psychologically at least, as an adulteress. Pictured art operates to the same effect: from the lascivious invitations of the half-naked women used to attract army recruits to the daily menu of the newspaper art and comic supplements, the home and marriage are belittled and the graces of the prostitute and the pleasures of the brothel magnified. Nitti [5] seems to be near the truth when he states that it is only by courtesy that one may speak of the modern world as a home-loving and marriage-respecting group.

There is a series of related motives operating to lower the birth rate, especially in the highly conventionalized classes, which people approve, condemn, or endeavor to understand according to their individual bent of mind. The increase of individual idealism causes great numbers to impose upon themselves all the restrictions for which their social environment calls. Luxurious expenditure, love of pleasure and recreation, and the enjoyments of the leisure life develop ideas and ideals of home and family in which children play little part. There is the consequent unwillingness to forego personal freedom and comfort and assume the care and responsibility of children. There grows up also an increased unwillingness to undergo the physical pain and risk incident to motherhood or to accept the marring of personal beauty and grace that goes with the nursing of children. The love of pleasure and comfort, the customary standards of expenditure on dress, furniture, holidays, and the like

[5] *Population and the Social System*, pp. 116, 117, 126, 178.

may be such as not to permit children. Others have a legitimate fear of producing diseased or defective offspring. Still others feel a reasonable doubt regarding their personal fitness for parenthood.

The Future of the Birth Rate.—The fall in the birth rate is a phenomenon characteristic of the recent past. The fall was first noticeable in France and it has progressed farther there than elsewhere. But in nearly all the countries of European civilization the trend has been downward.

This downward trend has been unequally abrupt in different sections of the countries affected. In the United States the New England section seems to have been the one first and most seriously affected and the one where the fall has been greatest. The South and large sections of the West have so far shown comparatively little decline. The difference is also marked as between the urban and the rural populations. Another difference is that noted between the different classes composing the population. The more enlightened, prosperous, and highly conventionalized classes are the ones showing the greatest decline; the poorer classes, the Negroes, the immigrant groups, certain religious sects, and others suffering from ignorance and isolation, show a high and frequently an undiminished birth rate.

Such regional and class differences seem to be explicable in exactly the same terms as is the declining birth rate itself; the variation is due to a difference in information on the one hand and a difference in desire on the other. A knowledge of contraceptive devices is more general among city than among country folk and the usual devices themselves are more easily procurable. Moreover, in the urban situation the child is a greater burden and expense, its opportunities for a normal development are

not great, and many couples who would have children are restrained because the conditions of the city are so unfavorable to child life. At the same time the abundance of competing attractions makes the average couple more prone to forego the pleasures that might come from the presence of children.

There is every reason to expect a farther fall in the birth rate. It is among the more backward and isolated peoples and regions that the fall has not as yet taken place. Knowledge is largely confined to the wealthier and educated classes, but is rather rapidly becoming common property. The effort to deprive the commonality of such information cannot succeed indefinitely: the information will reach the lower and depressed classes in spite of religious and governmental opposition. It is even probable that enlightened governments will presently take steps to see that such information is made available to all mature individuals of the group. The Japanese government seems to have realized the wisdom of making this information universal and is studying the best methods for doing so.

When the information becomes available to all persons, parenthood will have become voluntary and family limitation practically universal. As it spreads to the poorer classes the fall in the birth rate will be more marked and more abrupt for the reason that these classes are larger in number and have in the past had the largest families. It is not probable that the restriction will go to the extent in all classes that it has in the highly conventionalized. But the numbers will doubtless be restricted to the point where there is a possibility of support and at least a minimum of education. The difference between regions, as rural and urban, is likely to con-

tinue so long as the burden and expense of a family is greater in the one situation than in the other and so long as the competing attractions are so different.

The trend of the birth rate will thus be downward, and it will probably remain low. But there are in the population certain persons and groups not touched by the development of culture. The unassimilated immigrant groups will continue to show a high birth rate. It is only after a period of residence in the new environment that people take on the customs and ideals of the new country. Until they reach this stage of assimilation there may be expected from them a birth rate in accordance with the mores of the European situation from which they come. There are certain religious leaders actively engaged in propaganda against voluntary motherhood and this is likely to continue to make for an excessive fecundity among the followers.

The downward trend of the birth rate may, of course, be arrested at almost any point desired. A simple removal of financial and other burdens that accompany parenthood in the present situation would be the first step. With the higher standards of modern life it will perhaps also be necessary to insure that the child produced shall have some opportunity for education and for development. In the past an appeal to sentiment and a use of various cheap methods have usually been sufficient to insure an adequate supply of workers and soldiers. But these cheap and heretofore effective methods seem likely to prove insufficient when the control of the situation once passes into the hands of the people themselves.[6] Children will doubtless always be wanted and they will come in sufficient

[6] Leta S. Hollingworth, "Social Devices for Impelling Women to Bear and Rear Children," *Amer. Jour. of Sociology*, 22: 19–29. M. M. Knight, *et al., Taboo and Genetics*, pp. 114–127.

numbers when society decides to remove the handicap that their production engenders.[7]

[7] [There are some, at least, who being of good stock and able to give their children good culture, feel bound by the highest of obligations to contribute their share toward the coming generations. And a society which adequately appreciated the importance of such a sense of obligation could readily increase the number of its best members who took this attitude toward parenthood. Moreover, there are many who regard the joys of parenthood as an adequate recompense for its sacrifices. Ed.]

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See, also, "Readings," Chapters VI, VII, VIII, IX, and XVI.

CHAPTER XII

EMIGRATION, IMMIGRATION, AND THE GROWTH OF POPULATION

The Problem of Number and the Problem of Quality.—From the point of view of the population, the problem of immigration presents two inseparable aspects: the question of number and the question of kind. The fact, however, that the two aspects are so inseparable in reality often leads to a neglect to distinguish them in discussion. Considerations of number are often, if not usually, confused by the injection into them of ethnic, religious, political, economic, cultural, or other considerations. It is in the desire to avoid this too common confusion that the two aspects are here somewhat arbitrarily sundered. The qualitative aspects of the problem, so far as they fall within the scope of the present discussion, are treated elsewhere.

Emigration and Excess Population.—The migration of peoples is a movement tending toward equilibrium of population. It may be viewed from the point of view of the country receiving the people or from that of the country losing them. The latter form of the movement, emigration, has been alternately favored and deplored, encouraged and forbidden. The idea of colonies and emigration to them is at least as old as the classic world; both Plato and Aristotle recommended this as a solution of a redundant population. At other times and places, emigration has been feared and opposed as tending to decrease the population and so to weaken the country.

Like all migration, emigration is a movement of peo-

ples away from regions where the conditions of life are found to be hard, to regions where it is believed or hoped that they will be found more tolerable. The incentive to emigration will exist, therefore, so long as the conditions of human life are, or are believed to be, less hard in one region than they are found to be in another. And, because of unlike conditions of life in different countries, peoples of one region will find emigration favorable to their interests long after the people of other regions have ceased to do so.

It is usually true that migrations have taken the direction of a movement from regions of greater to regions of less density. The older country is usually supporting a population approximately as great as can be maintained under the prevailing state of development of the industrial arts and the conventional standard of living. But density of population is a relative matter and is but one of the things inducing a change of habitat. Political oppression, religious persecution, economic exploitation, and various other factors as well as population redundancy, condition the hardness of life. The size of the emigration is not always a measure of population density. The United Kingdom, Italy, and Germany stand high in density of population and high in the number of their emigrants though the motives for emigration have not been the same. Holland and Belgium have a yet higher density of population, though the Dutch and Belgian emigration is both relatively and absolutely small. France and Austria with relatively dense populations have had a relatively small emigration. The Scandinavian countries, on the other hand, with a relatively scanty population have had an exceptionally high emigration rate. Economic pressure and political unrest and oppression were potent promoters of the emigration of the Germans after 1848 as

well as of the Jews from Russia and Roumania during a more recent period.

Emigration and the Growth of the European Population.—When for any reason the people of a country begin to emigrate there is of course an immediate decrease in the population by the number of the outgoing persons. This effect, however, is in most cases a temporary one. The emigration sets in operation two other forces which tend to counteract the decrease in numbers. The lessened stress of the economic struggle resulting from the decreasing numbers allows somewhat easier conditions for those remaining and this is reflected in a falling death rate. There is, too, an almost immediate response on the part of the birth rate, which rises and remains high while the emigrants are leaving in large numbers. From whatever ranks the emigrants are drawn, the gaps are soon filled. Rare, indeed, are the cases where the phenomenon has seriously diminished a country's population.

Consequently, the net increase in the population seems not to be seriously disturbed by the loss of numbers through emigration. In spite of the large emigration taking place from many countries, their net increase from decade to decade is as large as formerly. The fact that certain English sparrows emigrated to America and there, by their remarkable fecundity and low standards of living displaced the native birds, has in no way affected the population of sparrows on English soil. A similar thing is true with regard to the English people. With rare exceptions, the rate of growth of the United Kingdom seems not to have been disturbed by her remarkable emigration rate. In Russia, in spite of the enormous emigration in recent years, the rate of natural increase has remained high and is increasing. For the period ending in 1910 it was higher than for any preceding period

recorded. Italy has had little or no decrease in the rate of natural increase though the emigration in recent decades has been large. The same thing is true in regard to Austria. Hungary has experienced a falling off from the previous rate of natural increase with the recent large emigration, but the falling off has been slight.

In no case is there any reason to believe that the rate of natural increase of a country's population has decreased from decade to decade as a result of emigration. From the European point of view it is not a matter of having the population depleted by emigration. It is rather a question of population quality: emigration has drawn most heavily from the male element of the population and from the age groups of greatest value. The result is to leave the population with an excessive number of women, children, and old persons. It also raises the question as to the stratum and type of the society that shall be allowed to increase. The population from generation to generation is reproduced by the ones who remain at home. Whether the quality improves, deteriorates, or remains constant from decade to decade turns upon whether the emigrants represent the average, the inferior, or the superior stratum and type of the social group.

American Immigration and Population Increase.— Following the Revolution and the establishment of the Federal government, there was a considerable immigration into the United States. It fell off during the War of 1812 but rose again with the peace of 1815. It is reported to have reached twenty thousand during the year 1817. Prior to 1819, however, there was no provision for the collection or publication of statistics in regard to the movement, and the numbers entering are matters of conjecture and speculation.

The earlier part of the statistical period shows a rela-

tively small but constantly increasing yearly immigration. The first notable influx came in the decade following 1845. A second large increase came in the period following the Civil War in America. The next large wave came in the late seventies and the early eighties. This was followed by a period of lower immigration until the beginning of the rise in the late eighties which continued, with fluctuations, through the first decade of the present century to its almost complete cessation during the latter years of the recent war of the European states.

The total immigration into the United States for the hundred-year period covered by the statistical records amounted to 33,200,103.

Not all the immigrants who come to America remain to become a part of her permanent population. Some come and after a period of prosperity return to the better social life at home to spend the results of their toil. Some come and return to come again another season, or disappointed in their hopes, pass on to other countries, or return again to the land of their birth. It is only since 1908 that a detailed record has been made of the outgoing aliens and it is consequently not possible to know the extent to which the different immigrant races and peoples contribute to the permanent population. The estimates on this point differ widely.[1]

The number of admissions and departures from the United States with the net yearly increase in population for the fiscal years ending June 30, 1908, to June 30, 1921, are shown in the following table:[2]

[1] The Immigration Commission estimated the emigration from the United States at one-fifth of the immigration for the time prior to 1881 and an average of one-third for the period since that time. *Report of the United States Immigration Commission, Abstract,* Vol. I, p. 112.

[2] *Annual Report of the Commissioner General of Immigration,* 1921, p. 112.

NET INCREASE OF POPULATION BY ARRIVAL AND DEPARTURE OF ALIENS, 1908 TO 1921.

	Admitted			Departed			Increase
	Immigrant	Nonimmigrant	Total	Immigrant	Nonimmigrant	Total	
1908	782,870	141,825	924,695	395,073	319,755	714,828	209,867
1909	751,786	192,449	944,235	225,802	174,590	400,392	543,843
1910	1,041,570	156,467	1,198,037	202,436	177,982	380,418	817,619
1911	878,587	151,713	1,030,300	295,666	222,549	518,215	512,085
1912	838,172	178,983	1,017,155	333,262	282,030	615,292	401,863
1913	1,197,892	229,335	1,427,227	308,190	303,734	611,924	815,303
1914	1,218,480	184,601	1,403,081	303,338	330,467	633,805	769,276
1915	326,700	107,544	434,244	204,074	180,100	384,174	50,070
1916	289,826	67,922	366,748	129,765	111,042	240,807	125,941
1917	295,403	67,474	362,877	66,277	80,102	146,379	216,498
1918	110,618	101,235	211,853	94,585	98,683	193,268	18,585
1919	141,132	95,889	237,021	123,522	92,709	216,231	20,790
1920	430,001	191,575	621,576	288,315	139,747	428,062	193,514
1921	805,228	172,935	978,163	247,718	178,313	426,031	552,132
Total	9,117,265	2,039,947	11,147,212	3,218,023	2,691,803	5,909,826	5,247,386

The rising tide of immigration after the close of the European War was stemmed by the passage of the per centum limit act which went into effect on June 3, 1921. This act, restricting immigration from different countries in any one year to three per cent. of the number from these countries in the United States in 1910, limits the annual number that may be admitted to 355,825.[3]

In the opinion of the Commissioner General of Immigration, the effect of this law will be to limit the number of admissions to "a fraction of the number who would come were it not for the restrictive provisions of the law."[4] This prediction seems so far to have been borne out. The advance estimates for 1922 made public by the bureau indicate that, except for the restrictive provisions of the act, the 1922 immigration would have been from 500,000 to 1,000,000 in excess of the actual number of admissions.

It is readily to be understood that the contribution of immigrants to the numbers of the group is not to be measured wholly in terms of the aliens admitted. The natural increase of the alien peoples continues in the new habitat and the descendants soon outnumber the original admissions.

But there is also to be considered the effect of the incoming groups on the increase of the native population. The extent to which the great influx of alien peoples has increased the total population of the country is a matter quite distinct from the number admitted or the number present. This raises the question as to what at any given

[3] See Walter W. Husband, "How Restricted Immigration Works Out." *Cur. Hist.*, 15 (1922), 604–609. Also, James J. Davis, "How the Immigration Law is Working," *Rev. of Rev.*, 65 (1922), 509–516.

[4] *Annual Report of the Commissioner General of Immigration*, 1921, p. 19.

time would have been the total population of the country had there been a smaller immigration or none at all during the preceding decades. Had America been allowed to populate herself by the natural increase of her pioneers and settlers, what would be the population number today? It is frequently held that the immense immigration has in reality contributed little or nothing at all to population numbers; that without this addition the numbers would have grown as rapidly by natural increase and in consequence the total population today, while differing in composition, would not be numerically different.

This position is suggested by the curious correlations existing between immigration and the native birth rate. The birth rate of the native American stock has fallen in the past century as the influx of immigrants has risen. It has fallen fastest and farthest in those states and sections where immigration has been most heavy. In the sections and regions not receiving an immigration the same fall is not observable and the population has increased by natural growth. The same correspondence of phenomena holds true as between immigrants of an older and those of a newer stock; where an immigration from Slavic and East European stocks has set in there is to be observed a slowing up of the increase of the partly Americanized groups. It is argued that the fall of the birth rate of the native American stocks and in the groups of the older immigration is a result of the incoming of groups of different customs and standards and the immigration phenomenon is merely the substitution of a new for an older racial stock and not a net addition to the population.

General Francis A. Walker [5] gave a clear statement to the theory that the natural increase of the native Ameri-

[5] References in Reading List.

can population is checked by the incoming of large numbers of immigrants and that in consequence immigration does not result in a net addition to the population of the country but rather in a process of substituting a foreign for a native stock. Observing the fact that the two phenomena of increasing immigration and the declining birth rate of the native stock go on side by side, he saw three possible ways of accounting for the parallelism. It might be due to a mere coincidence with no causal relation existing between the parallel phenomena; the immigration might be due to the declining birth rate of the native population; or the growth of the native population might be checked by the influx of the foreign elements.

A consideration of these possibilities led General Walker to the conclusion that a causal relation existed between the phenomena and that the influx of the foreigners was the cause—the decline in the native birth rate, the result. The native American, unwilling to engage in labor on an equal footing with the new elements of the population, withdrew from the competition and, unwilling that his children should sink to this social level, withheld his increase. The larger the immigration and the more diverse the type and the culture level, the more pronounced has been this tendency. The result has been that the large immigration of foreigners has not been a net increase to American population but has been a substitution of foreign for native stock.

This theory of racial survival with certain modifications and limitations has been very generally held by students of immigration phenomena. Hall,[6] Commons,[7]

[6] *Immigration and Its Effects on the United States.*
[7] *Races and Immigrants in America.*

Bushee,[8] Fairchild,[9] The Industrial Commission,[10] Ross,[11] Marshall,[12] Fisher,[13] and other competent students seem to accept the position. There are, however, certain writers who refuse to accept the position and have attacked it with keenness, though in general, without notable success in refuting it.

American Immigration and the Falling Birth Rate.— The theory seems to be lacking at three points. In the first place the three possibilities presented by Walker do not comprise a complete list. Again, the assumption that racial survival runs in terms of substitution as stated seems to be somewhat inadequate. Finally, the assumption that the birth rate decline has been coincident with immigration of a lower type seems not to be entirely correct.

The assumption that the decline in the birth rate of the American people coincides in time with the period of large immigration is not an altogether valid one. The fall in the American birth rate seems to have begun at a time considerably prior to the period of great immigration and was not therefore a direct result of it. According to the estimates of Professor Willcox[14] the decrease in the proportion of children to women of child-

[8] "The Declining Birth Rate and Its Cause," *Pop. Sci. Mo.*, 63: 355.

[9] *Immigration*, pp. 215–225. "The Paradox of Immigration," *Amer. Jour. Sociol.*, 17: 254–267.

[10] *Report*, 15: 277.

[11] *The Old World in the New.*

[12] *Proceedings of the National Conference of Charities and Corrections*, 1906.

[13] "Has Immigration Increased Population," *Pop. Sci. Mo.*, 48: 244–255. The claim is here made that immigration has decreased, not increased, the American population. See, also, Robert Hunter, "Immigration the Annihilator of our Native Stock," *The Commons*, April, 1904.

[14] "The Changes in the Proportion of Children in the United States and the Birth-Rate in France in the Nineteenth Century," *Publ. Amer. Stat. Asso.*, 12: 490–499.

bearing age began in the United States as early as 1810 and has since continued at about the same rate.

But aside from this possibility, the prime fallacy in the Walker theory seems to lie in the assumption of a direct causal relation between the two sets of phenomena because of a sequence in time. The three possibilities advanced, namely: that the fall in the birth rate and the increase in immigration are without causal connection, or that the one is the direct cause of the other, seem not to exhaust the possibilities. Omitting the first as being inherently improbable, it does not follow that a direct relation of cause and effect obtains between the parallel phenomena. Both may be the effects of a single underlying condition. The things showing correlation may be due to separate and unrelated causes or to separate but related phenomena. The latter appears to be the case in the present situation.

The nineteenth century was a period of great industrial and social development. On the one hand, the development of America into an industrial society through the invention and the use of machinery and the exploitation of the natural resources in the presence of a scarcity of easily exploitable labor created a demand for a cheap labor supply. This was accompanied by an enormous development of the means of communication and transportation and the cheapening of travel which made possible an immigration of a less adventurous and more docile type in ever-increasing number and from countries of less open resources and with lower wage and living standards. On the other hand, the century was marked in America by a general increase in wealth and comfort in many classes, by a growth of city life, by a constantly rising standard of comfort on the part of the Americanized stock, and by the growth of education, the emancipation of

women, and the increasing recognition of the burdensome handicap of numerous children, and was accompanied by a decline of the Puritanic tradition and the wide dissemination of information concerning mechanical means for the prevention of impregnation. The rapid industrial development of America furnished the stimulus to the immigration movement; the cultural enlightenment of certain classes gave rise to the decline in the birth rate. Both phenomena appear to spring from the rapidly evolving social conditions instead of standing, as Walker thought, in a direct causal relation one to the other.

Criticisms of General Walker's Hypothesis.—The critics of General Walker have generally been content to rest the case at this point. But the essential facts are not refuted by pointing out a certain inadequacy in Walker's statement of the case. And there is no intention here to deny *in toto* the Walker contention. That the native American birth rate has in some cases responded directly to the inrush of immigrants displacing American-born workmen seems to be evident beyond dispute. This fact is not met by pointing out that the fall in the birth rate is in general due to other causes; and that it would have occurred anyway. The country would have filled up and necessitated either a lessened birth rate or a lowered standard of living. This may be granted. But it is also true that the enormous influx of European peoples, for the most part in the most productive years of life, has greatly stimulated the feverish exploitation of the American resources and contributed to the industrial and urban growth of America, thus helping to create the social and economic conditions basic to the declining birth rate of the native American group. Nor should the fact be overlooked that the presence of these people increased domestic consumption and thereby again stimulated production.

Immigration helped to fill and develop the country and thereby helped to create the conditions that brought about the decline. In this sense there is a direct causal relation between the two phenomena.

That the population would be as large as it is today had there been no immigration for the past half or three-quarters of a century cannot be accepted. That the native population would be no larger than it is today had there been no immigration is likewise an insufficiently supported assumption. That, granted a little additional time, without any immigration, the population would have been as great as the resources of the country warranted, and of a more homogeneous ethnic and mental type, there is likewise little reason to question. The question stands properly as one of quality rather than as one of number. It was a question as to whether America should have one hundred million people of all races, nationalities, creeds, and cultures in 1910 or whether she should have the same population composed of white individuals of North European descent, of Protestant religion, and American ancestry and tradition in, say, 1950. The question was primarily one of when and who; not a question of a large or a small population.

Immigration and the Problem of the Growth of the American Population.—While it is doubtless true that directly or indirectly immigration has contributed to a decrease in the birth rate of the older American stock and so has made for slower growth, this is probably a minor influence so far as numbers are concerned.

Many of the immigrants come from very fecund stocks and their folkways remain for a time after their entrance into America. They only become Americanized after a considerable period in the American situation, and the giving up of their European folkway of early mar-

riage and large families is a part of their Americanization —their coming into the culture. The tendency is plainly seen in comparison of stocks which have been in the American situation for different lengths of time. The native birth rate is the lowest but the birth rate of the partly Americanized stocks is lower than that of the newcomers who are not yet at all contaminated by the American habit.

Not only are the families of the immigrant groups larger than those of the older population, but the average age of marriage is lower, and this is an equally important consideration: the younger the age of marriage, the greater the number of generations per century. A group whose average age of marriage is 20 to 30 years will produce four generations per century; if the average age of marriage be 30 the generations per century will be at most three.

At the present time the population is growing very rapidly, both by natural increase and by immigration. There is every reason to believe that there will be a continued fall in the former, so far as the Americanized stock is concerned, and an increase in the latter. And the increasing numbers of the stocks with a high birth rate folkway will tend to raise and keep high the natural increase of the country.

The problem of numbers is not one of a falling increase of the population. The population is likely to continue to increase. The problem is one of numbers in relation to the natural resources of the country. The tendency toward a large immigration will continue so long as the attractions of America are in any way superior to those of other parts of the world. The problem, therefore, is a question of the desirability of restriction and a slower increase in numbers; it is a question as to whether

it is best to let the standard of living fall to the general world average or to maintain the higher standard of population welfare at the expense of a less rapid exploitation of the country's resources.

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See, also, "Readings," Chapter XIX.

CHAPTER XIII

THE PROBLEM OF QUALITY

The Neglect of the Quality Problem.—In the literature, popular and scientific, dealing with problems of population, one finds relatively little attention given to the problems of quality. The prevailing point of view is nationalistic, or economic, and the social and human considerations enter only incidentally—as they are conceived to be of consequence in the control of man power. The ideal is the national group of a size and strength sufficient to prevail in defensive or aggressive struggles, military or economic, with rival powers: a population with a tax-paying, fighting, and labor power sufficient to bear the burdens of these struggles for pelf and glory.

In Greece, more than elsewhere in the ancient world, the quality of the population received some official as well as theoretical attention. But the Greek policy was always in the interest of a rather abstract conception of the state in the service of which the individual got his personal realization and from which came his status and significance. Rome had a definite and aggressive war policy. The quality of the population came within the sphere of attention only when and to the extent that it was conceived to be an element in the strength of the imperial state. In the population practice of the West European peoples quality considerations have not bulked large. Nor has it received much consideration, even in theory, save for the recent discussions of the eugenists, which have had little influence on practice. Nationalistic ideals emphasized numbers and, with the rise of the commercial

and industrial nations the demand for labor units reinforced the demand for fighting men. The quality of the population was not an item, save in the sense of physical strength and endurance, in determining the military success or the industrial triumph of rival groups, and except to the extent that a power for independent thought detracts from a man's labor or fighting efficiency. Consequently, the attention of nationalistic groups has only in an incidental and secondary way been given to questions of population quality.

While comparatively little effort has been made to exercise control over the quality and type of a nation's population, such considerations have perhaps seldom been wholly absent. And periodically questions of popular welfare have intruded themselves on the attention of groups primarily concerned with other matters. But of more importance than conscious efforts to control have been the incidental results of other policies, and of customs and folk practices, which have operated undesignedly to the improvement or deterioration of the population quality. Practically every historic group has at some period had its population stock impoverished as a result of war and military life. Religious intolerance has from time to time stripped peoples of their mentally competent. Marriage customs and restrictions have operated to the improvement as well as to the deterioration of populations. Infanticide and abortion have not been without influence. Charity, at times, has created more misery than it has relieved. And so in numberless cases public policies and private practices have modified the worth of a country's population.

In America, questions of quality have been neglected in both theory and practice. So far as any policy has existed it has been a negative one. With trifling excep-

tion any who would have been allowed and even encouraged to come to these shores, and there has been a general tendency to rejoice in the swelling numbers and the feverish exploitation of natural resources. The restricted birth rate has aroused vigorous condemnation, but the matter has been more often conceived in terms of nationality and morality than in terms of population quality and popular welfare. Some effort has been made to prevent the marriage of certain grossly defective types, notably certain grades of the mentally deficient, but this has not been consistent nor have the efforts extended to the matter of real concern—an effective prohibition on their reproduction. There have been various laws designed to prevent the intermarriage of colored and white racial stocks, but these have more often expressed a racial bias than a population policy.

The Need for a Positive Policy.—The American attitude of indifference and the policy of negative action might with great advantage to popular welfare give way to a positive policy designed to control and improve the quality of the population. Such policy would require a limitation and careful selection of immigrants and immigrant types and a limitation of natural increase to those whose birth would be a contribution, at least not a detriment, to the quality of the group. Not only would a discriminating policy select those to be added through birth and immigration, it would control other forces acting selectively on the population type. Certainly it would involve a vigorous handling of the present deplorable condition of the public health as well as control of the industrial, economic, and other forces operating to the progressive deterioration of the stock.

But any consistent population policy implies a somewhat definite conception of a type of society to which

approximation is to be made and to which the population policy is contributory. America has evolved no such national ideal.

Nevertheless, the question of quality loses none of its fundamental importance. Whatever the type of society, a constant consideration is the character of the human material. In the final analysis, all else depends upon the quality of the population. It is fundamental to racial welfare and basic to social and cultural advance. Consequently the facts and conditions making for and against an improvement in the population quality should receive careful and continuous attention.

The improvement or deterioration of population quality involves both biological and social facts, both the facts of heredity and the facts of environment, but it is with the former that we are here chiefly concerned.

The Level of Human Ability.—The first considerations in questions of quality are matters of biology. Man as a distinct species in the animal world owes his origin to a biological mutation or series of mutations which fixed, within limits, his physical and mental possibilities. By original nature, by virtue of the fact that he occupies a certain position in the scale of organic life, he has certain powers and capacities as well as certain incapacities and limitations. These things are fixed in the biological structure of the form.

These biological characters which separate man from other animal forms are marks of species and so are common to all branches and subdivisions of the race. They may differ in degree as between individuals and groups, but in degree only, not in kind. The physical stature of normal individuals varies with the individuals and with groups, but the degree of variation is rather narrowly limited. The mental power differs perhaps more widely

but is subject to similar species limitations. Between the most gifted and physically perfect individual and the most stupid and physically defective the difference is perhaps somewhat greater than the normal range of variation in other species, but the range is not indefinite. Minor deviations are universal, but man always remains man.

It does not appear likely that the level of human ability will undergo any fundamental change. The evolutionary history of every form seems to show an early period of insecurity in which it frequently undergoes rapid evolutionary changes in adapting itself to the external conditions of life. After the initial, creative stage, evolutionary change is less frequent and less profound. The species becomes in time organically stable; structural changes cease; the specialized adaptations characteristic of the type seem to reach the limit of their evolutionary possibilities. The human race at the present time appears to be in a final stage: it appears to be fairly well fixed as a biological type.[1] There appears to have been no major evolutionary change for perhaps three or four hundred generations. The physical structure has not greatly changed in the last geologic era. The size of the brain has not increased since the time of the Cro-Magnon race, say twenty thousand years ago. The fundamental ground pattern of racial nature shows little difference in existing peoples. The human wishes are everywhere much the same and the fundamental similarity of culture patterns seems to indicate that there has been little change since man first appeared as man.

There are of course great differences between individuals. It is conceivable that the average level of ability and human worth might be raised or lowered by *changing*

[1] It is doubtful whether any increase in the delicacy and complexity of the nervous system would be favorable to survival.

the ratios of the more highly and poorly endowed. The greatest improvement that appears to be possible would be to raise a large proportion of the population to the level of the best existing types. The greatest deterioration possible would be a reduction of all to the physical and mental level of the most poorly endowed. But such change, great as it would be, would involve no change in type; it would not be an evolutionary advance or decline. It would change human ability only in the sense of changing the average or median capacity. Aside from this type of change that may be brought about by selective means, the possibilities of racial improvement or decline appear to be practically zero.

Biological and Social Factors Equally Involved in Questions of Population Quality.—In problems of population quality, even in the physical sense, both biological and environmental factors must be considered, the latter as determining acquired characters, and as selective agencies affecting births. And if we were to consider not only biological and psychological traits but developed personality, it is clear that environmental factors would be of incalculable importance. In some cases the item of innate ability may be so pronounced as to assure eminence in spite of unfavorable personal circumstances; in other cases the chief element in determining success or failure is the stimulating or depressing effect of external circumstances. Superior intelligence, even the highest order of genius, is little likely to develop, and developed is largely wasted in the absence of a suitable culture to allow it expression. The mentality of a Newton could hardly achieve in an African environment or in an American city slum. On the other hand, the individual may be so deficient in native intelligence that the most favorable environmental conditions cannot prevent personal fail-

ure; no environment can develop the individual beyond the level of his inherent powers. The quality level of any population depends upon the *relative number* of the desirable and the undesirable types. Since it is necessary to take into account the environing circumstances and the heredity in order to explain the relative frequency of appearance of the favorably and the unfavorably divergent individuals and types, neither factor may be neglected in questions of population quality.

There has been too often an unfortunate tendency to set the two factors in opposition. This has often resulted in a futile debate concerning the relative importance of heredity and environment. Obviously, no such opposition exists; the factors do not operate in isolation; either is useless without the other. The person is a product of his hereditary equipment developed under a given environmental stimulation. It is obvious that the result would have been different had the hereditary equipment been different, and it is equally obvious that the result would not have been the same had the developing individual met and reacted to a different set of environmental stimuli.

Where the two are not placed in artificial opposition, there has often been a tendency to emphasize one to the exclusion of the other. This is often, of course, an inevitable result of intensive scientific specialization. The specialist sees his own field and group of problems and is often singularly ignorant of other fields and problems. The biologist, working with plants and animals, has sometimes emphasized the factors of heredity, not in excess of their importance perhaps, but to the neglect of other factors of controlling importance in human affairs. On the other hand, the social workers, often insufficiently attentive to biological facts, have sometimes assumed the in-

fluence of environmental factors to be somewhat in excess of their relative importance.

The result of setting environment and heredity in opposition, or of emphasizing one to the virtual exclusion of the other, has been a series of Utopian schemes of social progress and reform. All such programs, based as they are upon an incomplete analysis of the factors involved, tend to be panaceas rather than scientifically grounded movements. Various social Utopias have failed to take into account the nature of the individual. Eugenics, on the other hand, in the hands of some of its exponents, has been a biological panacea in that it has proposed social reform through the modification of a single element of the complex of social causation.

In the following chapters attention is directed to a farther analysis of population quality, and to certain specific problems in their bearing on the quality of the population.

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CHAPTER XIV

QUALITATIVE DIFFERENCES IN POPULATION STOCK

Uneven Quality of the Population.—In any racially homogeneous population, between an ill-defined group of inferior and defective individuals at the one extreme, and an equally ill-defined group of talented and superior individuals at the other, the great bulk is composed of persons of mediocre capacity. It is on the basis of the capability of this mediocre group that the superior and the inferior are determined; it is their divergence from it that marks them off as separate types and groups. The general level of intelligence of the median group may appear to be high or low as compared with the corresponding division of another population, and what passes as superiority or inferiority in one group may be normal to another.

It is the mediocre group, whether it be of high or low average capacity, that forms the bulk of the population and consequently determines from generation to generation the quality of the population. Upon it, in great part, rests the responsibility for the perpetuation and increase of the group. In accord with the rules of hereditary transmission, there is the reappearance in a successive generation of the same physical type, the same temperamental qualities, and the same capacity for intellectual achievement that characterizes the group. But from the intellectual dead level of the prevailing mediocrity, there come from time to time variant individuals of an exceptional capacity to reinforce the ranks of the

superior fraction of the population and other variants of such strikingly low mentality as to fall into the group of inferior and incapable.

Individual Differences in Men.—This characteristic distribution of a population is a consequence of the individual difference in men, which, in turn, is a specific case of what appears to prevail universally in the organic world. No two individuals are exactly alike. Fluctuating variations are universal and continuous in living forms; and the variability that characterizes other living forms is likewise an organic characteristic of man.

Measurement of any physical trait in a sufficient number of cases seems always to show an indefinite degree of variation between the opposite extremes that mark the limits of the species. The range is rather limited and the great bulk of the measurements group rather closely about a single point. As deviation from this modal measurement increases in either direction, the numbers rapidly fall off and usually in a uniform way on either side of the central point: the greater the variation the more exceptional it will be. In the measurements of the stature of the adult male individuals of a homogeneous racial group, for example, there is an indefinite variation from the dwarf at the one extreme to the giant at the other; the range is limited but within the limits the variations are continuous. The same thing is true of other physical characters: there are, within the limits of variation, all degrees of difference between men, but such differences are matters of degree.

The similar thing seems to be true of the mental nature of man. No two are exactly alike. Mentality seems to be a complex of a large number of psycho-physical traits each of which is subject to a considerable range of variation. The normal mentality appears to be the result

of the most usual combination of the specific traits in their most usual form. The variation in the traits themselves seems to give the difference between normal persons. Variation in the combination of traits or extreme variation or entire absence of some of them, may result in a type of mind lacking in the normal capacity for development. Other combination of variable traits gives a type of mind more capable of development than is usual in the social group.

The mentality of man seems to be subject to even wider range of variation than his physique. But it seems to vary without break or division from the most deficient to the most highly endowed. Extremes may be recognized: the idiot and the genius alike stand out, but they exist as individual variants, a more or less fortunate combination of traits common to the group.

The Congenitally Inferior.—In some cases the variation in the direction of impairment is so pronounced as to unfit the individual for the ordinary stress and struggle of social life. Because of original defect or deficiency in his mental or physical equipment, he may lack the normal capacity for mental development and social adjustment, be congenitally lacking in essential traits of physique or mentality. He may be a dwarf in stature, he may lack the normal power of resistance to disease contagion, he may have a pronounced tendency to obesity, he may be lacking in normal sense capacity, or in any one of a hundred ways he may be physically unfitted to participate effectively in group life. A certain percentage of blindness is congenital; and deaf-mutism frequently exists from birth, as do also a number of other defects and deformities, notably feeble-mindedness.

The native handicap may be of such nature that special training will partly overcome it: physical defects may

often be corrected; mentally deficient individuals may in some cases be so trained as to serve a useful purpose in life. In other cases the native defect or deficiency is so pronounced that no effort can make of the defective anything but a burden on the group.

The number of persons falling within the ranks of the congenitally inferior depends somewhat upon the social situation; the criteria of normality are social ones. In a simple social situation individuals of low mentality or poor physique may live an independent life of usefulness though their feebler bodies or weaker minds would fail in a life of greater complexity and keener competition. Consequently the number of the inherently inferior appears smaller or larger according as the situation to which they must accommodate themselves is simple or complex. Moreover, because of special training, better opportunity, and the generally easier and more protected conditions of life that go with the higher social classes, many individuals of defective physique or low mental capacity born into these classes succeed in escaping inclusion among the recognized incapables.

Genius and Talent.—In other cases spontaneous variation gives rise to individuals more highly endowed than is usual in the social group. The superiority may be in either physical characters or in mental functioning or in both. Some individuals are fortunate in the possession of strong and healthy bodies, highly resistant to disease contagion, and relatively free from minor ailments. With others the superiority is of a mental sort. They possess as a part of their original equipment an intellectual capacity and possibility of an unusual and high order.

Superior mental ability may appear as a highly specialized aptitude in a narrowly limited field or it may show

itself in a general high level of capability in many lines. Certain individuals are natively endowed with an intellectual capacity, a general high level of native intelligence, which, without amounting to genius in any particular line, marks them as unusual men and gives a presumption of success in any field of endeavor in which their energies may be directed. Other individuals have unusual ability within a narrowly limited field. It may be a talent for drawing, a peculiar aptitude for music, an unusual mathematical power, or special aptitude in some other line that characterizes the person as different from the mental norm. The person so gifted may show an average or even inferior ability in other directions. Indeed, specially marked ability in one respect is somewhat frequently accompanied by pronounced inferiority in other respects; it is occasionally the accompaniment of a general imbecility.

Inferior and Superior Families in the Population.—The individual differences among men are of chief importance in population consideration in so far as they are transmitted to succeeding generations. To the extent that a person transmits to future generations the excellencies and deficiencies of his own composition, the characteristics tend to be permanent in the society and may give a basis for the formation and perpetuation of groups characterized by these deficiencies and excellencies.

That certain of the physical characters of individuals are heritable is uniformly recognized; without such transmission there would be no continuity in the life of the group. The racial marks reappear with predictable regularity. Bodily strength and capacity for development are matters of original endowment. Susceptibility or immunity to certain diseases seem to be traits of physical

inheritance.[1] A varied group of physical defects and abnormalities are in many cases heritable and in case of certain diseases there appears to be a direct inheritance of an organic weakness that predisposes the person to attacks of the disease.[2]

The brain is of course a part of the physical structure, and it is upon the nature of this inherited organ that the individual's mental power depends. Consequently, the mental capacity with which he is endowed is as much as his stature or the color of his skin a matter of biological endowment. Children of the same parents show marked likenesses in mental traits and vary less each from the others than do an equal number chosen at random. The same type of mind frequently reappears in successive generations: quick intelligence seems to characterize some family groups; a slow working of the mental processes characterizes others. Similar types of mentality reappear in successive generations with a persistence and uniformity that seem to prove something in regard to their heritable nature.

Like physical inheritance, the mental inheritance takes place through the transmission of specific traits, not through the transmission of the total mental nature. A chief difference between mental and physical traits seems to lie in the number and complexity of the factors involved. There is a vagueness about even the simplest mental traits and their method of inheritance that is less true of the physical characters. Both mental ability and

[1] Seen admirably in the difficulty of acclimating peoples to strange environments, and in cases where civilized races come into contact with races that have not acquired immunity to each other's diseases. A. H. Keane, *Man: Past and Present*, p. 13 f. n. W. Z. Ripley, *Races of Europe*, p. 586.

[2] C. B. Davenport, *Heredity in Relation to Eugenics*, Ch. III, "The Inheritance of Family Traits," enumerates about a hundred characteristics of men that he asserts to be inheritances.

its absence appear to be heritable things, but neither the method nor the degree of inheritance has been well made out.

The native differences between family stocks are sometimes concealed and sometimes exaggerated by the circumstances of the environment. Physical weakness and defect may frequently be corrected by adequate attention and treatment or exaggerated by neglect. Education and tutoring will conceal almost any degree of deficiency of natural intelligence except the most pronounced. The mask of illiteracy conceals much natural superiority. Only under conditions of equal opportunity is it possible for native differences of individuals and family stocks fully to appear. With similar training and practice individuals develop very unequally and some attain to a degree of proficiency which others cannot reach under any conditions.

Studies of Divergent Groups.—There have been published in recent years a number of studies showing groups of related persons who have, through considerable periods of time, produced an excessive number of mentally or physically diseased and defective persons, of criminals, prostitutes, paupers, and others of defective or divergent type, frequently supported at great expense by the society. Other similar studies have been made of family groups showing a high percentage of talented and socially successful persons. The characteristics of these family groups, whether of the desirable or the undesirable type, are shown to exist in the father or mother and to reappear in the offspring. In a number of such studies effort is made to show that the liability to the reappearance of the mental and social characteristics is in accord with certain rules found to exist in the transmission of unitary biological traits.

The earliest and probably best known, and in many ways the best, of such studies is that of the "Jukes."[3] On one side this family group traces its origin to "Max," "a hunter and fisher, a hard drinker, jolly and companionable, averse to steady toil, working hard by spurts and idling by turns." This ancestor would appear from the description to have been a fairly typical frontiersman. He left a number of children, some probably illegitimate. Two of the sons married into a family, the "Jukes," of six girls, some or all of whom were illegitimate and at least three of whom bore illegitimate children before marriage. The progeny of these girls was traced through five generations, or counting the family of "Max" from whom they received a strain of sight defect, seven generations in all. The total descendants numbered approximately twelve hundred at the time of the study. Of the seven hundred of these who were traced, five hundred and forty were blood relatives of the "Jukes"; the others were related by marriage or cohabitation.

The group lived in an isolated and inaccessible region, "one of the crime cradles of the state of New York." Their habitations were log or stone hovels, generally with but a single room, "all ages, sexes, relations, and strangers 'bunking' indiscriminately" on the rush-strewn floor. The essential features of their life were stationary during the period studied and the social habits remained relatively unchanged.

The entire record of the "Jukes" is one of pauperism, vice, and crime. The central feature of the family line was sex irregularity, resulting on the one hand in base-born and mis-educated children, and on the other, in venereal diseases with their accompanying group of

[3] R. L. Dugdale, *The Jukes: A Study in Crime, Pauperism, Disease and Heredity.*

physiological disorders and physical weaknesses, defects, and deformities. Twenty-five to thirty per cent. were syphilitic. Some 280 were classed as paupers and half of that number as criminals; fifty were prostitutes and a much larger number sexually loose. In addition to a quarter or a third said to be sexually diseased, some three hundred died in infancy. The cost of the group to the state during the seventy-five years covered by the study was approximately one and one-quarter million dollars.

A somewhat similar study of an opposite type of family is that of the descendants of Jonathan Edwards.[4] His ancestry contained the names of several persons of prominence in literary and theological affairs. His family and home environment were conducive to development. "It would not be easy to find a man whose surroundings and training in childhood were better than those of Jonathan Edwards." His father was a minister and a graduate of Harvard. The son was a graduate of Yale. He married Sarah Pierrepont, a seventeen-year-old girl, whose ancestry was perhaps somewhat superior to his own. The descendants of this couple—Mrs. Edwards reared eleven children—together with the men who married into the family numbered approximately 1400 at the time of the study. Of this group a high percentage were men who became prominent in professional or political life or in business and industrial careers. "There is scarcely a great American industry that has not had one of this family among its chief promoters."

At their head stands Jonathan Edwards, and behind him an array of his descendants numbering in 1900, 1394, of whom 295 were college graduates; 13 presidents of our greatest colleges; 65 professors in colleges, besides many principals of other important educational institutions; 60 physicians, many of them eminent; 100 and more

[4] A. E. Winship, *Jukes-Edwards. A Study in Education and Heredity.*

clergymen, missionaries, or theological professors; 75 were officers in the army and navy; 60 prominent authors and writers, by whom 135 books of merit were written and published and 18 important periodicals edited; 35 American states and several foreign countries have profited by the beneficent influences of their eminent activity; 100 and more lawyers, of whom one was our most eminent professor of law; 30 were judges; 80 held public office, of whom one was vice president of the United States; three were United States senators, several were governors, members of Congress, framers of state constitutions, mayors of cities, and ministers to foreign courts; one was president of the Pacific Mail Steamship Company; 15 railroads, many banks, insurance companies, and large industrial enterprises have been indebted to their management. Almost if not every department of social progress and of public weal has felt the impulse of this healthy and long-lived family. It is not known that any one of them was ever convicted of crime.[5]

The "Kallikak" family was studied in some detail under the direction of Doctor Goddard.[6] This is primarily a study of hereditary feeble-mindedness in its relation to dependency and delinquency. The family group shows two divergent lines descended from the same paternal ancestor: one of these mentally and socially normal, the other characterized by mental defect, disease, poverty, and vice.

The defective branch owed its origin to the unconventional sex relations between a Revolutionary soldier, "Martin Kallikak," and a presumably feeble-minded girl. As a result of this union a line of 480 descendants were traced. Of these 143 were classed as feeble-minded, 46 as mentally normal, and 291 as unknown or doubtful. The marriage of these people into other groups of a somewhat similar mental and social type gave a total of over eleven hundred persons, 262 of whom were reported feeble-minded, 197 as mentally sound, and 581 as of unknown or doubtful mentality. As was of course inevitable in a family group of such low level of mentality, there was a large amount of sex irregularity with its

[5] Popenoe and Johnson, *Applied Eugenics*, pp. 161, 162.
[6] *The Kallikak Family.*

results, among ignorant people, of much illegitimacy, infant mortality, and sexual disease. Especially in the later generations, the group seems to be shot through with syphilitic infection.

At a later stage of his career, after leaving the army, the founder of the above line married a respectable girl of good family, and from this union resulted 496 descendants. These were all mentally normal and were all good citizens.

Failure to Separate Native from Acquired Characters.—It is perhaps inevitable that such studies should have somewhat more influence than a scientific evaluation of their method and content would warrant. They bring out in a striking way the financial and social burden of a defective strain and show the menace that it may be to the social group. It is, indeed, in the spectacular massing of the social failures that the chief value of most of the studies so far made would seem to lie. They call attention to a problem. The failure and defects typified by the "Jukes" are everywhere to be found. Rare and short is the family line without its representatives. But their heavy massing in certain family lines answers to the popular taste for the sensational. Some of the studies bear unmistakable internal evidence of having been made in support or illustration of a preconceived doctrine. Others are known to be based chiefly on hearsay and neighborhood gossip. It is not possible at the present time to place any large confidence in the studies as giving conclusive evidence concerning the inferior and superior strains in the population. The problem is deserving of a scientific treatment that it is yet to receive.

Such records unquestionably illustrate congenital inferiority and superiority. But even if the evidence presented in these and other family histories be taken at its face

value, it does not always demonstrate such degrees of congenital difference as superficially appear, nor that these contrasts between success and failure are due to congenital difference alone. Such an hypothesis is a pleasing one because it renders the solution so simple and so obvious, but unfortunately the evidence to justify the hypothesis is in most cases meagre or lacking. Even the contrast between the "Jukes" and the Edwardses, striking as it is, proves less than is usually assumed regarding the relative values of the two family stocks. One was an economically prosperous group with a tradition of culture and education.[7] The other was an isolated and poverty-stricken group without education [8] and with a tradition of lawlessness and of the manliness of having acquired an immunity to venereal disease. Evidence has not been advanced to show that the children of the "Jukes," so far as they were free from defect and disease, would not have developed into normal men and women had they from birth the care, training, and environmental opportunity and stimulation of the "Edwardses." Nor is there any conclusive evidence that the record of the "Edwardses" would have been free from crime, pauperism, and harlotry had they from birth been subjected to the debasing influence of the same environment as the Jukes.

It is, however, true that biologically unfit and inferior strains and family groups do exist. There are strains with a feeble capacity for mental development, and with other types of defect and inferiority that limit the possibility of success. With the "Kallikaks" the central trouble was their low mental level and this was reinforced

[7] ".... every child among the descendants of Jonathan Edwards has been educated from early childhood." A. E. Winship, *Jukes-Edwards*, p. 42.

[8] "None of the Jukes had the equivalent of a common school education." *Ibid.*, p. 55.

and perpetuated by the convergent sex relations. No environmental situation will change the hereditary composition of a person nor make anything but social failures out of a family of mental defectives.

But this factor is more important in some cases than in others. In the absence of a demonstrated, heritable type of inferiority, to attribute the family failure exclusively or even largely to defective heredity is to overlook the molding influence of the family and neighborhood environment. No such study so far made has undertaken with any degree of success to determine the relative influence of the ignorance, poverty, poor health, disease, discouragement, neighborhood contempt and abuse and exploitation, and the like as compared with the assumed defective hereditary equipment.[9]

The Repetition of Ancestral Traits.—Failure and degradation do not of themselves prove germinal inferiority nor do their reappearance in successive generations prove the inheritance of inferiority. The inferior social status may result from other causes than defect in original capacity and these causes may operate to reduce to a degraded position the members of succeeding generations. Blood relationship is an important item in the complex of causal conditions where there is heritable defect or deficiency in the stock; where the stock is of normal mentality it is probably insignificant as compared with the influence of the close social environment. Dugdale's statements to the effect that the trouble with the "Jukes" was the close, depraved, family environment in which the young grew up has received less attention than has the fact that the various depraved members were related.

[9] Speaking of one branch of the "Jukes:" "They had lived in the same locality for generations, and were so despised by the reputable community that their family name *had come to be used generically as a term of reproach.*" Dugdale, *Jukes*, p. 8. [Italics in the original.]

It must be remembered that the successive generations of the "Jukes" were raised by criminals, paupers, and prostitutes, and in a family and neighborhood tradition of lawlessness, thriftlessness, and immorality, and that they inevitably assimilated these traditions and social standards. There is thus a repetition in successive generations of the same low standards of life and the same lack of conformity to the standards of the larger society. The "Jukes" were not in any complete sense members of the larger society.

It is frequently pointed out that when members of these degraded family groups migrate to new regions they create for themselves an environmental situation similar to that from which they came, and this is cited in evidence of the germinal nature of their depravity.[10] The statement of fact is in part true. So far as a group is marked by mental deficiency, disease, or gross physical handicap, it is likely to prove incapable of normal adjustment in any situation. No change of environment can alter the inborn characters. But, aside from this, it is not necessary to resort to this order of explanation; the facts are more adequately accounted for in social terms. The emigrating individuals take with them the set of values and attitudes to which they have become habituated. The social environment is in their habits and will inevitably give tone and color to their life in a changed habitat. There is little more reason to anticipate a sudden and radical change in attitude and behavior with a change of environment than there is to anticipate an immediate change in spoken language when an emigrating group crosses a national frontier. Neither the mother tongue nor the living standards are matters of the germ plasm, but to expect a sudden change in either simply as

[10] Popenoe and Johnson, *Applied Eugenics*, p. 168.

a result of migration is to fail to understand the nature of social change.

There is no doubt, on the other side, that education and social success tend to run in families. So long as children live and develop in differently circumstanced family groups, marked differences in achievement are inevitable, even if native ability is equal. The influence of family example and educational opportunity is an important factor in determining success. The parental example and influence and early education determine the trend of interest. The special opportunities for development, the advantages of school and college training, the encouragement and stimulation of favorable home surroundings, the successful position of the family, the family tradition of superiority, the run of attention in the family group, the social presumption of capability, and the innumerable other stimulations to accomplishment of the favorably circumstanced child have a degree of influence in determining success and achievement that seems to be inadequately appreciated by many biological students of social phenomena.

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CHAPTER XV

THE CONVENTIONAL CLASSES AND NATIVE ABILITY

Class Divisions.—Every society is divided into more or less sharply defined castes and classes on the basis of external marks which characterize different segments of a composite group or on the basis of sentiments and interests peculiar to some but not to all. Race, color, birth, occupation, knowledge, wealth, religion, language, and numerous other facts or conditions throw more or less rigid and enduring lines of division across the population. When the initial mark that defines and isolates a segment of the group is an external and relatively permanent one the members presently develop a corresponding body of sentiment. Where peculiar belief or common interest is the initial point of demarcation, there is frequently an unconscious growth or a deliberate assumption of external peculiarity. In the developed situation the class or caste, whatever its origin, usually comes to have peculiar external marks that serve the purpose of identification, and a body of common belief and sentiment that unifies it and justifies its existence. The individual is by virtue of circumstance the member of a certain class—a Negro, a peasant, a member of the nobility—and judged by the fact. He is commonly and conventionally assumed to be more or less typical of the class or caste to which he belongs.

The class divisions in a society tend to take on a hierarchal form. The classes represent different degrees of success or conformity to the standards of the time. The class successful in the control of the value dominant at the time and place tends to be the standard by which

others are judged, and their reputability is greater or less in the order in which they approach or depart from the standard. The standard may be that of birth, military prowess, material possession, or any other value that lends itself to the necessary degrees of classification and distinction; at different times and places rather diverse standards have prevailed. In the situation, the individuals and groups take rank according as they possess or control more or less of the dominant value.

The Assumption That Social Position is an Index of Native Worth.—There is a very general acceptance of the belief that the class organization of society is, at least in a rough and general way, in accord with innate worth. It is believed that the aptitudes of persons may be inferred from their social and economic position. In the present-day world the professional man is the social superior of the mechanic or the farmer, and the social superiority is usually accepted as external evidence of innate difference. On the economic basis it is asserted that any considerable body of men grouped in the order of their incomes gives at the same time a classification approximately in the order of their native ability and social worth. The idea is general that somehow wealth and the sources of wealth have fallen into the hands of those best qualified by nature to hold them, and that these persons are the natively superior men of the social group. Conversely, the idea prevails that poverty and low economic status, unless associated with an aristocracy of birth, are indications of inferior natural ability.[1]

[1] William McDougall, *Is America Safe for Democracy,* is a recent book typical of this type of opinion. A. A. Tenny, *Social Democracy and Population,* pp. 66ff., presents certain of the evidence to show that achievement or non-achievement is an index of ability. See, also, A. T. Hadley, "Population and Capital," *Publ. Amer. Econ. Asso.,* 9: 555–566. D. S. Jordan, *The Blood of Nations,* and elsewhere. In the eugenic literature this is a generally accepted presupposition.

It is important to know in how far, if at all, these conventional classes in a society coincide with divisions on the basis of individual capacity and human worth and according to superior and inferior family stock; in how far, in other words, the conventional class divisions are social expressions of the inherent differences in individuals and families and racial stocks.

An Hereditary Aristocracy.—A nobility or caste aristocracy is a socially superior class which has succeeded in making its advantageous position hereditary. There is in such a group always the assumption of superior worth —and generally the assumption of a different origin— and this is commonly accepted by the inferior as well. The plausibility of this position rests upon present status and past achievement. Its truth depends, where the caste is a strictly hereditary one, on the fact of an uncontaminated descent from a superior group of men or, where the ranks are in part open, on the selective forces operating to improve or degrade the stock.

The origin of hereditary class systems based on real or assumed differences in blood and ancestry is somewhat diverse. Most usual has doubtless been the method of military conquest and subjugation. The barbarian horde conquering a more peaceful and industrious group imposes itself as a ruling class. The various European countries have been repeatedly overrun by conquering hordes who came to plunder and remained to rule. A military group within a country, existing originally for purposes of protection or ostentation, seems invariably to endeavor and sometimes to succeed in establishing itself as a superior or ruling caste. In other cases an aristocracy owes its origin to diversity of function within the limits of the group. Wealth, especially in the form of land-holding, gives a social position that may be perpetuated to the exclusive advantage of a limited number.

Whatever the origin, the precarious position occupied by the incipient aristocracy gradually changes to that of a fixed and accepted status. The political system is shaped to its perpetuation; the economic order is molded to its advantage. Educational and religious institutions are used to define, enforce, and perpetuate the order. The fiction of superiority is invented, taught, and presently believed by the aristocracy and the peasantry alike. The aristocratic class of nearly every European country assumes an origin unlike and superior to the peasantry. In some cases this was originally true; the castes of India seem to have an ancient base in a difference of racial origin; the servile castes among the old Germanic tribes arose from conquest. In other cases the different racial origin is palpably and demonstrably fictitious, but it is nevertheless of great utility in perpetuating the tradition of superiority. The class arrangement presently comes to be accepted as a part of the natural order; it may even come to be regarded as a part of the divine plan.

The unity of feeling and sentiment within the group is reinforced and the group itself perpetuated through intermarriage. Consequently there is a repetition from generation to generation of whatever heritable elements the group originally possessed or later acquired. Where the original stock contained an exceptional number of men of superior capacity their traits may be repeated and come to characterize the group. Where the original stock contained defective elements, the inbreeding tends to their biological fixation and makes it fairly certain that they will increasingly characterize later generations. The Hohenzollern family is generally believed to have contained no individual of mediocre capacity since the time of Frederick the Great. Fahlbeck[2] makes it fairly

[2] *The Swedish Nobility.*

certain that the Swedish nobility contains elements leading to its own elimination. The interbred royalty of the European world shows both the capacity and the stupidity that the stock originally contained.

The position of an aristocracy is sometimes strengthened by the addition to it of individuals who are dangerous outside or who, because of wealth or other desirable characteristics, would be a strength or an ornament within. By attracting to itself the talent that appears in other ranks of society, the group may increase its native worth. Where this has not been the case, where the class has for long periods been a closed one, there has been a tendency toward inferiority and decadence. The pampered existence allows the royal fool to reproduce as freely as the capable members and whatever inherent or spontaneous stupidity the line contains tends to increase: there are no purgative means for the elimination of diseased and mentally deficient strains. The relatively open ranks of the British aristocracy, it is frequently asserted, has been its salvation: it has never been entirely closed either to individuals of wealth or of talent.

An aristocracy may or may not be a superior group. Examples of both types are ready at hand. But whatever talent there is in it has every opportunity to assert itself and to get exaggerated recognition. Every cultural advantage is supplied, every opportunity is offered, and the presumption of excellence makes excellence easy and the recognition of excellence sure. In consequence, an aristocracy makes an excellent showing and it is easy to get the superficial impression that it contains an unusually large amount of natural talent.

The Economically Superior.—The economic and social superiority of individuals and family groups in the present-day world is to be differently explained in

different cases. With some, the status is a result of selective forces which indicate native superiority, of a kind; with others the evidence to support a claim of exceptional ability is of doubtful worth or entirely lacking.

Economic success and social prominence are very often due to the accident of birth. As a consequence of the transmissibility of accumulated wealth, certain persons come without personal effort into possessions and the advantages which go with possession. Training, education, travel, refined surroundings, cultured associates, business opportunity, professional advantage, come to be theirs without the necessity of any exceptional natural ability or personal worth. Where such is the case, there is nothing whatsoever in the matter of possession nor in the refined social graces that possession makes possible to imply native worth or its absence. The presumption, so far as any is to be made, turns upon the antecedents of the person concerned,[3] a matter quite aside from the present ownership of property.

Chance is another element that operates to assign individuals their place in the economic class system. A large percentage of the present-day American fortunes are the result of accidental circumstances over which the individuals themselves exercised no control. The discovery of oil and gas deposits in West Virginia, for example, created a group of economically superior families. That they are in any way natively superior to the neighboring farmer folk because their land, unknown to them, was underlaid with mineral deposit which, dis-

[3] "The historical family of De Lazareff in Russia has for head of the race an Indian slave, a guardian of the temple of Siva, who one night steals one of the colossal diamonds forming the eyes of the god, and with it flies to Russia, where he sells the precious gem to Catherine for a million and a half roubles." Achille Loria, "Problems of Eugenics," *Papers Communicated to the First International Eugenics Congress,* pp. 179ff.

covered and exploited without their aid, brought them fortunes through royalties, is not to be accepted as either reasonable or probable by any one except themselves. So, in numberless other cases the economic superiority of the individual is the result of chance and a social philosophy that permits the natural resources of a country to be preëmpted as private property.

There are, however, selective forces operating to increase the amount of ability in the more prosperous classes. Not all wealth is the result of chance or inheritance. A successful business career does not, in general, require much ability, but the possession of certain sorts of ability and certain qualities of mind do count in the business of money-making just as mechanical and mathematical ability are likely to be valuable in determining the success of the engineer. If the conditions of competition be open and equal it is reasonable to assume that those who conspicuously succeed are among the ablest of their kind, those most highly endowed with the qualities essential to success. Success, in open competition, does represent fitness. There is without doubt a certain number of financially successful men whose position is chiefly due to the fact that they possess a type of ability in some ways different from that of the common run of business men. Their distinctive position in the business and financial world and the consequent position of their families in the social scale is due to this. It may be a far-sighted managerial ability, an unusual organizing capacity, the ability to make keen adaptation of means to the end desired, shrewdness, concentration of interest and force of will, or special ability in any form that is important to business success. So far as peculiar ability counts, and so far as the conditions of competition are equal, those who conspicuously succeed in the accumu-

lation of fortunes are of a selected type. Their success and rise in a competitive situation is evidence that, on the average, they have more of certain kinds of ability than the competing individuals who fail to rise. To the extent that this type of individual is more numerous in the prosperous classes than elsewhere the classes are to that extent distinctive.

But it must be remembered that only certain types of ability count in the business of money-making. There is very little social control exercised over the behavior of economic activities and in consequence the business career offers the richest field for freebooting that the world has yet seen. This condition puts a premium on certain qualities and many individuals conspicuously succeed because they possess the qualities in high degree. The American financier has pretty uniformly displayed a tough-skinned and single-minded ruthlessness which has enabled him to force himself through obstacles and seize the spoils. The economic upper classes as a whole doubtless possess in rather high degree such qualities as energy, tenacity, shrewdness, singleness of purpose, and the like, which success in competitive business implies. These qualities may exist in connection with other kinds of native ability but are not necessarily so connected.

There are also some selective forces operating in an opposite direction. There is a good deal of evidence to suggest that the best minds do not go in for the sort of success represented by financial gain. The best minds in the universities are, in general, not the ones looking forward to money-making careers; the keener type of mind more often turns to pursuits that lead to distinction in other fields. The business career does not put a premium on the type of mind nor the group of values that make for enduring fame. On the contrary, the nature

of a business career operates to their elimination. In the present-day world, at least, certain types of superiority make against financial success of a large sort. Devotion to high ideals, intellectual or moral, is a serious hindrance to business success.[4]

There is, on the whole, no convincing reason for assuming that the socio-economic élite are very different from other classes of the population so far as native ability is concerned. Certainly it is not possible to endorse the common idea that the broad economic distinction between classes in modern society is the result of germinal variation. The group contains some men of great ability, and excellent character, a goodly number of clever and unscrupulous rascals,[5] and a fair proportion of the mediocre and stupid. The percentage of capable, as compared with some other classes, is probably high. The percentage of markedly inferior and incapable, as compared with some other classes, is probably low. But the abundance of opportunity and the protected and easy life doubtless conceals a good deal of the inferiority native to the class. The majority, like the bulk of most groupings, are doubtless of average native ability and without other grounds than wealth for distinction. The most that can be said is that the class contains a relatively large amount of certain types of ability. The view so generally assumed and set forth on behalf of men of wealth, that riches go with native superiority seems to be an almost wholly baseless one; the correlation between economic prosperity and biological and social worth is probably very nearly or quite negligible.

[4] Compare C. H. Cooley, *Social Process*, pp. 221ff.

[5] "The history of great fortunes goes to show that most often great patrimonies are created, not so much by supreme genius, as by shameful and iniquitous practices." Achille Loria, *Papers Communicated to the First International Eugenics Congress*, p. 179.

Economic Success as a Measure of Ability.—The economic status of the individual or group of individuals in a society depends upon the degree of success in getting more than a proportionate share of the product of production. Success in this respect goes with power to control the distribution of product. This power may be the result of superior training, inherited wealth or previous accumulation, social acquaintance, chance, cunning, thievery, access to sources of information, a knowledge of the market; any one of a hundred things may turn the tide of fortune. Among these things a certain type of native ability, if accompanied by a favorable set of circumstances, is an element of importance but not the only nor the most important one. Superior economic status in itself does not argue superior native ability.

A voluminous body of evidence has been presented designed to show that the prosperous classes produce a higher percentage of intellectual ability than do other classes. They furnish more than their proportionate share of society's conspicuously successful men, not only men successful in economic lines but in all lines. But the higher percentage of success is to be accounted for only in part by a greater amount of talent in the prosperous classes. The chances for the appearance of talented individuals are not greatly in favor of any particular class. But the chances that the native ability produced will develop and receive recognition and that the talented individual will achieve prominence are rather heavily weighted in favor of the more fortunately circumstanced. Success is a measure of opportunity, at least as much as of native ability.

Nor should the fact be overlooked that, because of the social regard paid to wealth and social position, there is

frequently the credit given for superiority in the presence of demonstrated mediocrity.

The Poverty Classes.—The economic poverty classes are generally assumed to bear some inverse relation to fitness. The popular assumption very commonly runs that native inferiority is virtually synonymous with low industrial and economic status. The poor and the degenerate are lumped together as the lower classes. Poverty is accepted as a sign of inferiority, the proof of that inferiority being found in the fact of poverty.

There is need to avoid this too common confusion of the depressed and the inferior. In America the period of open resources and free opportunity is a generation in the past. The progress of the present generation has been industrial. Because of the unsocialized nature of the industrial development the material progress has left behind an increasingly large percentage of the population reduced to an industrial servitude. The poverty, meaning thereby the condition of those persons whose income is insufficient to maintain health and working efficiency, is due to various sorts of maladjustments between the worker and the industrial organization. There may be a lack of training that would enable the worker to fit into the industrial machine in an effective way, and a lack of opportunity that would enable him to exercise control over it. He is a misfit in the industrial sense, and must find a livelihood in the unskilled and less desirable pursuits.

Among those who have achieved for themselves prosperity, not by chance but by effort, the very worst incapacity is excluded. But great numbers who are, on the whole, equal to many of those who prosper, remain in the ranks of common labor, and among these, as well as among the more fortunately circumstanced, occur the variant types of innate superiority. But with the de-

pendent status there goes a lower wage, excessive and deadening work, irregular work and economic insecurity, bad housing, under-nourishment, ill-health, and other characteristics of proletarian life. Accompanying the low wage, as its immediate and necessary consequence, is a cultural deprivation and a lack of recreation. The poor are largely deprived of education and intellectual opportunity because of poverty and social status; there is an absence of books and other culture tools and an absence of contact with inspiring and elevating personalities. The poor get next to nothing from the law and from its administration; little from the church, not enough from the school, the libraries, or other centres of culture. The poverty groups suffer from a cultural isolation.

As a result, the hard-working groups bear the superficial marks of inferiority. Under-nourishment results in a lack of energy, physical, mental, and moral. The hopelessness of outlook and the under-vitalization express themselves in shiftlessness, indolence, improvidence, and lack of ambition. Deprived of recreation, refining influences, pleasantness, and hope, recourse is often had to the grosser forms of vice, drink and sexual pleasures, always available to the poor and the isolated.

The children of the poor, deprived of education and training, lacking proper nourishment, adequate clothing, decent home and neighborhood surroundings, and refined associations; debased by ugly, vicious, and discouraging environment; and subjected to premature and deadening forms of labor, acquire the type of mental life and develop the social characteristics for which such social stimulation calls. Their outlook is narrow, their average of health is low, their resourcefulness is small. Their opportunity for improving the family status is meagre. With their maturity comes the reproduction of the pov-

erty, misery, and vice that was the lot of their parents: unskilled and underpaid labor, ugly, insanitary and dirty housing, shiftlessness, indolence, and lack of ambition, early marriage, large families, and all the other accompaniments of the life of the present-day industrial proletariat.

To persons, independently convinced that poverty and degeneracy are interchangeable terms, the backwardness, ignorance, delinquency, shiftlessness, ill-health, and even the dirt, ragged clothes, unkempt appearance, and other inartistic accompaniments of a workaday existence are pointed to as the result of congenital inferiority. The poor are supposed to be an inferior order of creation.[6] The general acceptance of this idea seems to be a necessary condition to the free and unregulated operation of the industrial machine. It is not surprising, therefore, that the superficial observers as well as the beneficiaries of the industrial class régime have coöperated to its perpetuation, and that there should exist in the general population a widespread idea that poverty is somehow a result of germinal defect.

But the tendency to identify the poor and the inferior,

[6] David Starr Jordan, *The Blood of the Nation,* seems to be convinced that the poor and lowly are the undeveloped descendants of the Neanderthal Man (p. 23); their more recent ancestors being the swineherd, the clown, and the slave (p. 27). The successful classes of England today are the descendants of the old nobility (p. 27). "All the old families of New England and Virginia trace their lines back to nobility, and thence to royalty" (p. 28). An untenable biological doctrine is not made tenable by a resort to historical inaccuracy.

[A large proportion of the educated and successful citizens of America are the descendants of peasant immigrants, whose ancestors have been in this country only two or three generations, and whose remoter ancestors were "the swineherd, the clown, and the slave." As for the older American stock, we hear much of the *Mayflower* and the Pilgrims, but Professor Commons estimates that probably one-half of the immigrants of the Colonial period landed as indentured servants—Ed.]

like the tendency to identify the wealthy with the superior, goes much too far to have justification in fact. The error lies in confusing an economic and social condition with facts of a different order. The poor are frequently "unfit," but more often in a social than in a biological sense. They have frequently developed in an environment that precluded their becoming efficient members of society. Their inferiority is due to nurture and lack of education and opportunity more than to heredity. Their existence is an evidence that the nation has paid a fearful human price for its industrial triumph.[7]

The Confusion of Poverty with Native Inferiority.—It must at the same time be recognized that in the socially lower classes there is a large number of inherently inferior individuals. Many persons fall into poverty and distress because of insufficient native capacity to cope with the complex conditions of modern life. The tendency of a ruthless and unregulated competition is to drive the weaker members to the less desirable and lower-paid occupations, and this is true regardless of the cause of the weakness. The intrinsic characteristics of certain persons will keep them poor so long as they are unsupported. The class in poverty is being constantly reinforced by the addition to it of the unprotected failures in life, among whom the percentage of the inferior is high. It is doubtless true that in the economic lower and socially depressed classes there is a larger percentage of defective and natively inferior persons than in the classes in better circumstances or in the population as a whole. But how much

[7] ".... persons who remain poor are the entirely foolish, the entirely wise, the idle, the reckless, the humble, the thoughtful, the dull, the imaginative, the sensitive, the well-informed, the imprudent, the irregularly and impulsively wicked, the clumsy knave, the open thief, the entirely merciful, the just and godly person."
Ruskin, *Unto This Last.* "*Ad valorem,*" p. 128.

greater, it is not at present possible to state, though it is probably by no means so great as is popularly supposed. The environment in which these classes live does not ordinarily develop nor allow expression to much of the ability the classes contain and they consequently appear to be more devoid of ability than is in reality the case. Moreover the squalid conditions of life of the poverty classes develop traits that under more wholesome conditions would not be shown.

The fact that a higher percentage of inferior persons is included among the depressed classes, so that on the average they rank somewhat below the more prosperous groups, does not identify the poor with the inferior. To point out that the percentage of the inferior individuals in the lower classes is higher than in the other economic classes and social strata of the population is quite a different thing from the very common assumption of the man on the street that low economic status is *prima facie* evidence of inferior native endowment. Poverty itself is no evidence of inferior native worth; poverty is an economic condition and may result from many causes, of which inferior native ability is but one. The great bulk of the poor are in all probability as normal and as capable of responding to normal influences as are the members of any other economic group.

The Occupational Classes.—There is some evidence that the classes in modern society formed on a functional basis, while they very largely parallel the division along economic lines, bear a somewhat closer relation to difference in natural ability.

In the formation of most occupational classes, there is very little selective force at work. The choice of a vocation is largely a matter of chance and circumstance. As between most occupations there is rather scant evi-

dence to justify the assumption that native ability is markedly more usual in one than another. But a broad division between the professional, artistic, scientific, and other scholarly pursuits on the one hand and manual labor, vocational work, and trade pursuits on the other, seems to bear some relation to difference in native ability. Such division frequently cuts sharply across economic class groupings: scholars, scientists, philosophers, and artists are frequently poor; the dull and half-educated are numerous in the upper economic classes.

Membership in the professional and artistic classes is of course partly conditioned by opportunity and the social stimulation of a culture environment. It is also true that the majority of members of any particular professional group are not greatly superior men. An average intelligence plus training and industry is all that is required for a considerable degree of success in most lines: ordinary sense and application rather than peculiar native aptitude is the precondition of success in the lower reaches of the professional world. Moreover, within any profession there are great numbers of place-holders, and advancement goes frequently on the basis of seniority, influence, and various extraneous circumstances.

Nevertheless, the basis of selection is not exclusively artificial and arbitrary. The ranks of the professional classes are largely open on condition of adequate training: membership is largely a matter of ability and desire. The appeal is to the inquiring type of mind; not to the dull, lazy, or mediocre. The scholarly pursuits without doubt attract the best minds of the modern world and the professions are consequently composed in large part of selected men. Within the profession, ability has a better chance to assert itself than is elsewhere usual, and it is only demonstrated ability that wins the respect of the

fellow members of the tribe. As a result of the selective process there is perhaps in these classes a higher percentage of natural ability than in other classes. At the same time there are perhaps no other groups so free from stupid and dull-minded individuals. A certain degree of native ability is a prerequisite to membership. The two facts taken together give these classes a high rank. So far as any conventional classes in modern society can be pointed out as superior to others, there is little doubt that they are the functional classes engaged in artistic and professional pursuits: the men of letters, science, art, and the learned professions.

The Relation of Class Divisions to Native Ability.— We may summarize as follows. There is in general no very close correlation between natural ability and class groupings. Wealth and social position are largely matters of chance and property inheritance and bear comparatively little relation to native human ability. An aristocracy of birth may represent a superior or an inferior family stock; examples of both are numerous enough. Occupations in most regions and most times are not highly selective: the choice of a life work is largely a matter of chance and accidental circumstance. There are men of superior native ability in all occupations and all social classes. It is probable that the percentage of capable and talented persons is somewhat greater in the socially upper classes and especially in the professional groups than in the general population, and still more that the percentage of markedly inferior is lower. Conversely, it is probably true that the percentage of inferior and incapable is higher in the lower economic and social classes and the more undesirable occupations. In the presence of opportunity the gifted and specially endowed tend to advance in the economic and social scale and the

inferior and poorly endowed tend to fall. As a consequence there tend to be more exceptionally capable persons in the upper and more exceptionally incapable ones in the lower social groups. The great bulk of the economically and socially superior, however, are doubtless of the same level of native ability as the mass of any other class. And the mass of the poor are doubtless as inherently valuable as the mass of any other group. Moreover, a very considerable proportion of those endowed with exceptionally high native ability are born in homes of poverty. Of these some demonstrate their powers in spite of their handicaps, while a large proportion of their exceptional ability is prevented by the unfavorable conditions from realizing its possibilities.

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CHAPTER XVI

THE DIFFERENTIAL NATURE OF THE DECLINING BIRTH RATE

The Falling Birth Rate.—The facts concerning the fall in the birth rate have been discussed in a previous connection. It will be recalled that the decline began well over one hundred years ago. The dates which mark the beginnings of the movement are rather wide apart in different national groups and in no case perhaps subject to precise determination. In the United States the decline was in progress at the beginning of the nineteenth century; in France perhaps even earlier. In Germany the initial point seems to lie well toward the end of the century. In all cases the decline was at first slow and, in the absence of comprehensive statistical data, frequently aroused no concern or even escaped notice altogether. As the movement gained momentum there grew up a miscellaneous literature concerning its significance.

One group of writers fear, as a result of the differential decline as between nations, the subjugation of the less prolific and the more civilized. French statesmen and militarists are distressed by the relative increase of France and her enemy neighbors. Others fear the denationalization of France as a result of immigration. There is a widespread popular fear that the superior birth rate of the colored races threatens the white domination of the world, if indeed white culture itself is not in danger of decline through conquest by or infiltration of the darker races. There is in consequence an insistent demand that there be an immediate stimulation of the fecundity of the

white race so that its progeny may fill the earth to the exclusion of the other races.

The fear lest the civilized races increase too slowly is probably unfounded. The problem of numbers seems rather to be a problem of restricting increase within the existing and prospective means of life. The essential nature of the problem of population increase seems to have undergone no essential change since reproducing forms first began the occupation of limited space. Nor does the proposal of a "cradle competition" commend itself to enlightened intelligence as a solution of national animosity.

But the downward trend of the birth rate has brought with it certain internal changes in the structure of populations. The declining birth rate has been highly selective in its tendency. It is this selective element of the decline that is the matter of examination in the present connection.

Social Status and the Birth Rate.—The birth rate is very closely bound up with social and economic status. The rate is lowest in the economic and cultural upper classes and highest among the classes lowest in the economic and cultural scale. The popular statement that the more prosperous a social class the lower its fecundity is essentially correct. In these classes the marriage rate is lower, the age of marriage is somewhat higher, and the number of children per family is less than in most other strata of the population. From the low birth rate that so generally characterizes the highly conventionalized classes in the present-day world, there is a rapid increase in the number of children per family with the decrease in the amount of family wealth and education.

The following table from Bertillon's study of certain cities and classes of the European population is accepted by Newsholme [1] as probably accurate so far as the trend

[1] *Vital Statistics*, pp. 75, 76.

is concerned, though he does not consider that the figures are entirely trustworthy.

ANNUAL BIRTHS PER 1,000 WOMEN OF FERTILE AGE IN DIFFERENT ECONOMIC STRATA

Classification	Paris	Berlin	Vienna	London
Very Poor Quarters	108	157	200	147
Poor Quarters	95	129	164	140
Comfortable Quarters	72	114	155	107
Very Comfortable Quarters	65	96	153	107
Rich Quarters	53	63	107	87
Very Rich Quarters	54	47	81	63
Average	80	102	153	109

Steinmetz,[2] on the basis of an occupational classification in certain European cities, found the number of children per family to be 4.30 in the lower families. Of the families in industry, small trade, skilled mechanics, and professors of theology, the number was 5.00. The artists had families of an average size of 4.30. In the well-to-do commercial classes, the number of children was 4.27 to the family. The average family for the high officials was 4.00. The university professors, including the theological, had families of an average size of 3.50. Twenty-three scholars and artists of high rank averaged 2.60 children per family.

Pearson,[3] on the basis of the Copenhagen statistics of Rubin and Westergaard, found the gross fertility (birth rate) to be 4.52 for the professional classes, 4.58 for the commercial classes, and 4.95 for the artisan classes; no great difference. And the order of increase as measured by the net fertility, *i.e.*, the number per family who reach the reproductive age, was 3.31 for the professional classes, 3.01 for the commercial classes, and 3.14 for the artisan classes.

Effort frequently is made to point a relation between

[2] Zschft. f. Socialwissenschaft, 7. Quoted in part by Popenoe and Johnson, *Applied Eugenics*, p. 143.

[3] *The Chances of Death and Other Essays in Evolution*, 2:98.

occupation and the birth rate,[4] but there seems to exist no primary connection. However, the occupations parallel rather closely the social and economic classification of the society, so an occupational classification gives a rough division along lines of more fundamental importance in the present connection.

Various other studies have verified the more or less obvious fact that children are less numerous in the families of the well-to-do than in those of the lower economic classes. The difference in this respect is more marked in some populations than in others but seems to exist in all. Moreover, the difference in the fertility of social groups has increased during the period of the declining birth rate. With older couples the differences are less than with families of later marriage. The differential fertility of different economic strata of the population is at least in part a recent phenomenon.

Education and Fecundity.—Of more consequence from the point of view of the quality of the population is the restricted birth rate of the educated and professional classes.

Numerous studies have shown that the marriage rate of college graduates is less than the average of the population, that the age at marriage is greater, and that the number of children per marriage is less than the average for the population. This is true alike of men and women graduates and of the graduates of the co-educational schools as well as of those of the sex-segregated type. It is stated that about forty-five per cent. of college women marry before the age of forty years as against eighty per cent. for the state of Massachusetts, ninety per cent. for

[4] See, *e. g.*, Thomas A. Welton, "On the Birth-Rate in Various Parts of England and Wales in 1911, 1912, 1913." *Jour. Roy. Stat. Soc.*, 79: 18–36.

the United States as a whole, and ninety-six per cent. for the state of Arkansas.

The age of college-trained women at marriage is greater by about two years than that of the non-college women in their families and among their cousins and friends in the same social set. Smith [5] in 1900 found the average age at marriage of college women to be 26.3 years while their sisters married at an average age of 24.2, their cousins at an average age of 24.7, and their friends at an average age of 24.2 years. It is also found to be true that the better the grade of student the later the marriage. The Phi Beta Kappas have a marriage rate lower than college women in general.

The same disposition to delay marriage or to avoid it altogether is characteristic of college men, though to somewhat less degree than it is in the case of college women. Phillips [6] pointed out that the number of children per married graduate of Harvard and Yale fell from about 3.25 in the decade ending in 1860 to a little over 2 for the decade ending 1890. If it be true that three to four children per family are necessary to maintain a population, it is obvious that the college-trained men and women are not reproducing their own numbers.

In the scientific and artistic classes and among men and women of eminence and genius there is the same tendency toward late marriage and a restricted birth rate. In many cases the persons endowed with great natural gifts are not reproducing their own numbers.

The Fecundity of the Native and the Foreign-born in America.—In the United States there is a marked difference in the birth rate between different races and

[5] "Statistics of College and Non-college Women," *Quar. Publs. Amer. Stat. Asso.*, 7: 1ff.

[6] *Harvard Graduates' Magazine*, 25: 25–34.

nationalistic groups. The matter is complicated in most cases by other factors and the influence of race and nationality it is not always possible to determine. But there is a general agreement in regard to the differential fecundity.

The investigation of the Immigration Commission showed the average family of native white women of native parentage, married from ten to twenty years, to be 2.7 children, while 4.4 children was the average for white women of foreign parentage. The difference in fertility was nearly two to one. For the same age groups, women under forty-five years of age and married from ten to twenty years, 7.4 per cent. had no children. The percentage of women of native parents having no children was 13.0; the per cent. of foreign-born women having no children was 5.7. Forty per cent. of the native-born married women had one to two children; 19 per cent. of the foreign-born women had only one or two children. Ten per cent. of native women of native parentage had five or more children; 33 per cent. of the foreign-born women had five or more children.

Other studies, and the almost universal impression of observers in sections of the country having a large immigration of the recent type, bear out the findings of the Commission that the immigrant stock is more prolific than the native American. Thompson[7] calculated the number of children per one thousand women of child-bearing age in the United States who were married, widowed, or divorced. In 1890 the number was 777 for the native white mothers and 1,259 for the foreign-born mothers. In 1910 the number had fallen in each group: for the native white mothers to 706, for the foreign-born mothers to 1,119.

[7] "Race Suicide in the United States," *Amer. Jour. Phys. Anthro.*, 3:97–146.

The statistics of the registration areas in recent years bear out the conclusion that proportionately more children are born to foreign-born women than to native white women. However, the reverse is true in a number of states. For the twenty-two states included in the registration area in 1919, the percentage of births of white children having both parents native-born was 64.3. Those having native-born mothers constituted 71.9 per cent. of the total; those having native-born fathers were 67.7 per cent. of the total. A comparison of size of family shows the same relative fecundity of foreign-born and native-born mothers. Of the white children born to native mothers twenty-seven per cent. were first children, twenty-three per cent. were second, sixteen per cent. were third, eleven per cent. were fourth, and seven per cent. were fifth. The first and second children together form one-half of all children of native mothers. Of the children born to foreign-born mothers, the first and second children were thirty-four per cent. of the total.

The question as to whether or not the native population of the United States is maintaining itself by natural increase is much disputed. Adequate statistical evidence to establish either position is not available. The evidence seems to show that it is not doing so in certain sections, notably the New England region. But in other sections of the country, notably in the South and in the more rural regions elsewhere, and in the country as a whole, the native stock is probably more than holding its own. In the North Atlantic and New England states, where the immigration rate is very high, the number of children of native parents is very low. But in the North Central and Western sections, as well as in the South and Southwestern states, the number of children is high. At the present time, in the country as a whole, on account of

the greater number of native-born families, and in spite of the very high birth rate of the recent immigrant stocks, the foreign-born stocks are probably not increasing as rapidly as the native stocks.

The Negro Birth Rate.—The birth rate of the Negro elements of the American population has undergone a rather rapid decline. As a whole, the group seems to occupy, in respect to fecundity, a position intermediate between the native white and the foreign-born white.

In 1890, the number of children under five years of age was 517 for each one thousand white women of child-bearing age and 619 for each one thousand colored women of the same age. In 1900 the number of children under five years of age for the white women had dropped to 509 and that for the colored women to 584. The 1910 figures showed 477 children under five years of age for the native white women and 515 for the colored. The birth rate is thus seen to be higher for the colored women, mainly Negroes, but the decline among them has been more rapid than among the whites. In 1890 the number of children per one thousand women of child-bearing age in the United States who were married, widowed, or divorced, was 777 for the native white mothers, 1,259 for the foreign-born mothers, and 997 for the Negro mothers. In 1910 the number had fallen in each group: for the native white mothers to 706, for the foreign-born mothers to 1,119, and for the Negro mothers to 773. The birth rates of the white and colored mothers of native parentage are approaching equality.

The returns from the registration areas give separate returns for the white and colored in some twenty-two cities where the colored population amounts to ten thousand or represents ten per cent. of the total. In fifteen of these the colored population shows a birth rate lower than

that for the white population. The low rate for the Negroes, in some cases at least, is in part accounted for by the greater inaccuracy of the birth registration among the colored persons.

The Decline of Urban and Rural Birth Rates.—Another outstanding characteristic of the falling birth rate has been the wide variation between different sections of the country. There are for America no official and direct statistics, but the data collected by the Federal Censuses are sufficient to establish the general facts. The New England section seems to have been the first affected and the one where the decline has been greatest. But other highly industrialized sections of the North and East show the same tendency in only slightly less degree. The agricultural South and large sections of the West have shown a relatively small decline.

The difference is likewise marked as between urban and rural populations. The birth rate is higher in the country and the families larger than in the city. When different American cities are compared the proportion of children to women is found to be fairly uniform. In cities with a high percentage of the recent immigrant stock the rate is higher than the city average, but the same thing is true of cities in the South, where the recent immigrant is a negligible element in the population.

In the colored population, the difference in the birth rate between the city and the country is greater than among the whites. The proportion of Negro children in the cities is less and the proportion of Negro children in the country is greater than in the corresponding white groups. In the North the birth rate of the colored people is not as high as the death rate either in the city or in the country. In the South it is higher in the country, but not in the city.

The significance of the differential birth rate between the city and the country is frequently misapprehended. The rate has declined in both urban and rural sections. The decline appeared first in the city populations, but in recent periods the decline has been most precipitate in the rural sections. The rate there is still above that of the cities, but is approaching rather rapidly the urban rate. The causes of the decline are essentially the same in the rural as in the urban communities; there seems to be no lasting reason why the one rate should be markedly lower than the other. The present difference is explicable chiefly on the ground that the spread of information is more impeded in the rural areas.

The Significance of the Differential Birth Rate.—The differential birth rate has been widely discussed and there has been much speculation concerning its effects on the quality of the population stock. It is clear that if the high birth rate of certain groups is not offset by a correspondingly high death rate, the more prolific groups will gradually displace the less prolific. If the more prolific are at the same time the less capable, and if their incapacity is in the nature of heritable variation, the differential birth rate must inevitably result in a lowering of the native worth of the population.

To the extent that a correlation exists between native ability and economic status, the inferior fecundity of the prosperous classes means a deterioration of the population stock. But aside from the question of the relative biological worth of the different economic classes, it is socially unfortunate that the families most economically capable of providing desirable home conditions for children and best able to equip them for useful and successful life should show the slowest increase.

The late marriage and the highly restricted birth rate

of the educated and professional groups is, from the point of view of population welfare, doubly unfortunate. There is a pretty general agreement that these groups, as a whole and with numerous exceptions, represent intellectually superior elements of the population. To the extent that native mental capacity is biologically transmissible, the relative sterility of these groups means a decline in the average intellectual quality of the stock. Apart from this, it is among these groups that the child has the best environment and the greatest opportunity and stimulation to personal success and social usefulness.

The significance to population quality of a differential birth rate between racial stocks turns upon the extent to which one racial stock can be shown to be innately superior to another. The trend of scholarly opinion in recent years has been to minimize the differences in racial ability popularly assumed to exist. But there are in general great economic and social differences between the later immigrant stocks and those of native parentage. The social and cultural effects of the excessive increase of the foreign-born stocks are therefore unfortunate whatever may be the result of their increase on the innate quality of the population.

The effect of urbanization on the birth rate and consequently on the quality of the population has been much discussed in the recent literature. In general, the impression seems to prevail that the differential birth rate between city and country results in a deterioration of the quality of the population. The argument conventionally runs that the cityward migration of country folk is a highly selective process. The ambitious and intellectually superior migrate to the cities; the mentally inferior and stupid remain on the farms. Under the conditions of city life the superior migrants become relatively sterile when

compared with the fecundity of the inferiors who remain behind. Urbanization thus leads to a disproportionate increase of the less capable members of the group.

In the absence of any careful scientific studies, the hypothesis is purely speculative. It is probably true that the cityward migration is selective, but it has not been demonstrated that the selection operates to the deterioration of the population. The drift from the country includes many highly intelligent and active-minded individuals who are unable to find in the rural environment the opportunities they crave. But it also includes many physically inert and mentally obtuse individuals who seek a less strenuous means of life as well as the bulk of the vicious and the criminally inclined. The hypothesis also seems to imply a somewhat naïve conception of the inheritance of mental ability, and to involve the usual confused conception of the relation between social achievement and inherent capacity.

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CHAPTER XVII

THE PUBLIC HEALTH

The Social Importance of Health.—From the point of view of the quality of the population, the condition of the public health is a matter of first importance. Historically, the interest of the state in the health of its members has been in large part that it might be assured of an effective body of fighting men. In a state of nature and surrounded by hostile tribes, the number of able-bodied warriors bore a direct and immediate relation to success in tribal conflict. Health had a distinct group survival value. So, too, in the warfare of more advanced groups, the nation able to make military use of the largest proportion of its members had, other things equal, the better chance in armed conflict.

Aside from military strength, the national health has utilitarian value. In the economic competition between peoples physical health is an important item in deciding success. The numbers marked by defect or disease add but little to the labor force of the group, and detract from it to the extent that they must be protected and supported by the more efficient members. The economic significance of disease is not always realized. The losses are too common to attract attention, and too insidious to be at all generally understood. The economic loss to wage-earners in the United States from premature death and the sickness preceding, amounts to over two hundred millions per annum.[1] The social loss that comes

[1] *Care of Tuberculous Wage-Earners in Germany*, Bull. 101, U. S. Bur. of Labor, pp. 18ff.

from the lowering of personal efficiency is of vastly more importance.

From the point of view of individual happiness and social welfare, health is no less important. The amount of human misery due to ill-health includes a large per cent. of the total. It is an important cause of dependency. Of all the cases that come before the relief societies of the City of New York, for example, some three-fourths are accountable for in terms of disease.[2] It is an item of importance in vice and crime. It creates a lack of educational opportunity, or a stunted body and low vitality unable to profit by the school advantages. Disease and ill-health are major items in a vicious circle. Physical disability leads to poverty and so to the conditions favorable to the spread of disease. The children, because of poverty and its accompaniments are low in vitality, stunted in growth, and retarded in education, and become the socially indifferent, mentally retarded, and physically inefficient adults of another generation.

The health ideal would be a population all members of which were physically sound and mentally competent. How far any group is from such an ideal may be seen from the army of nurses and physicians it supports and from the number of hospitals and institutions for the defective that it maintains. There will of course always be misery due to defect and disease. Mentally deficient and handicapped persons will always constitute a burden on the social group. But health may and should be made the rule rather than the exception. Public health is hardly less important than public education, and society should for its own good see that each of its members possesses a body free from the handicap of preventable disease and developed to the extent of innate capacity.

[2] E. T. Devine, *Misery and Its Causes*, p. 54.

To secure such physical status is a community as well as an individual problem. The causes of disease and ill-health are in large part inherent in social conditions that are not subject to individual control.

The State of the Public Health.—No comprehensive survey to determine the actual amount of defect in the population has been made. There are, however, indications from several recent sources of the amount of preventable disease and correctable physical disability that exist in the population. The evidence from military sources, while not the best, is the most comprehensive.

The draft called out some three million men in the early maturity age groups. The examinations of these men to determine their fitness for army life were made by thousands of local draft boards and in dozens of army camps. Consequently, the returns showed a considerable range of variation—in some cases so great as to make them doubtfully comparable. The regional differences were considerable as were also those between the urban and rural populations and between the different racial groups. But the number of men examined was so large that the results may be accepted as giving a rough but fairly accurate picture of the existing state of the public health.

Approximately one-half of the men examined were without blemish sufficiently important to record. On the other hand, the number of men with defects sufficiently serious to disqualify them for military service varied from twenty-one to thirty-four per cent. The records of the Surgeon-General showed some form of disability in twenty-nine per cent. of the men examined.[3]

[3] M. W. Ireland, "Physical and Hygienic Benefits of Military Training as Demonstrated by the War," *Jour. Amer. Med. Asso.*, Feb. 21, 1920.

Approximately one-third of the recruits were rejected as physically unfit for full military duty. In the haste of mobilization many defects were overlooked and men accepted to be later disqualified. Consequently the percentages shown were below the facts. Probably fifty per cent. of the enlisted men were unfit for full military duty. It has been estimated even that only twenty-five per cent. of the drafted men were qualified according to pre-war military standards.[4]

It should be remembered that many of the defects recorded were noteworthy only from a military point of view. A height below sixty inches, for example, is a defect that disqualifies for full military service. Moreover, many of the defects recorded as defects of vision are easily corrected for purposes of civil life. Each mobilization camp found it necessary to segregate many recruits with correctable defects that unfitted them temporarily for military training. Approximately ninety per cent. of the defects were not such as to interfere seriously with usefulness in civil life. Altogether about twelve per cent. of those examined were rejected as unfit for any form of military service.

The causes of rejection under general headings were as follows:

Conditions preventing free mobility	.26 %
Defects of special senses	.15 %
Cardiovascular cases	.13 %
Nervous and mental abnormalities	.10 %
Tuberculosis	.095 %
Defective physical development	.08 %
Hernia	.06 %

The draft figures apply only to men in the years of early maturity. If older men be included, the percentage of defect would of course run higher. And it also seems

[4] *Jour. Amer. Med. Asso.*, April 10, 1920.

a fair inference that if women, among whom the amount of sickness and defect is somewhat higher, be included, the percentage of defect would be farther increased. No comparable figures are available for the civilian population but various surveys indicate a general health condition at least as bad as that uncovered by the draft. Probably not less than three-fourths of the adult population are suffering from some more or less serious form of defect.

The examination of school children in New York in 1918 revealed physical defect in about five-sevenths of the 700,000 children examined. In New York City 77 per cent. were found to be physically defective. Outside of New York City the percentage of defect ran somewhat lower: the cities and villages showed 57 per cent. defective, the rural schools showed 63 per cent. The more favorable showing of the rural communities may have been due to a less thorough examination. The Bureau of Child Welfare of New York City in 1918 examined some 185,000 school children and reported that above one-third were suffering from more or less serious malnutrition.

A Farmington, Massachusetts, community study in 1918 showed 77 per cent. of the 4,473 persons examined to be suffering from some form of physical disability. The number of seriously ill was twenty-five per cent. of the total number examined.[5] The United States Bureau of Labor Statistics gives the disability rate among insured persons as six and six-tenths days per year, the figures varying from five days per year for persons under thirty-five years to fifteen per year for those of seventy years or over. Three million people are continually ill in the United States. Fisher states that for the average indi-

[5] *Farmington Monograph No. 4;* Community Health Station.

vidual sickness causes a loss of thirteen days a year.[6] In the United States Army the sick rate over a period of years is between two and three per cent. The fact that soldiers are young men selected because of physical ability and discharged when they develop chronic trouble makes the sick rate lower than that in civilian life. The amount of physical illness seems to average close to six per cent. in the general population.

Nature and Disease.—Deplorable as the physical health of the population may appear when attention is directed to the amount of defect and disease, it has nevertheless undergone marked improvement in the recent decades and especially in the countries of Western civilization. The struggle of European peoples with disease and premature death has not entirely failed. In more backward countries the death rate is higher and the years of life less than in Western countries. The death rate in India is double that of some of the North European countries and the average span of life is correspondingly less. Comparison of the present with an earlier period shows a contrast no less marked. The average span of life in the sixteenth century did not exceed twenty years; today, in the advanced civilizations, it is above forty.

Some part of this improved condition must be due to advance in medical science and sanitation. The health conditions have shown the greatest improvement since the middle of the last century. Improvement in many respects awaited the announcement of the germ theory of disease, which took the practice of medicine out of the realm of magic.

It is, however, very desirable to avoid the exaggeration of popular conception. Not all the decline in the sickness and death rates may be attributed to public health

[6] *Report on National Vitality*, p. 34, Washington, 1909.

measures. Natural forces have themselves been responsible for no inconsiderable part of what is popularly attributed to the efforts of man.[7]

Exposure to disease results in an immunity against the disease as well as in greater power to recover from attacks. This occurs apparently through a process of natural selection. Diseases that have become relatively trivial among peoples with a long history of exposure to them may assume a very different aspect when introduced into races that have not acquired such immunity. Measles decimated whole communities of the Polynesian Islanders. The Esquimaux, with no racial experience of smallpox, die from the effects of vaccination. The Negro peoples suffer excessively from tuberculosis. A similar relative lack of resistance is seen in the white man when first infected with native diseases. Syphilis, to which some of the American races had become practically immune, spread as a pestilence over southern Europe after the return of the first expedition of Columbus to America. The racial power to resist a disease seems to vary directly with the racial experience.

Not only do races acquire a resisting power through selection or by other process; the micro-organisms themselves seem to undergo changes. The virulence of infective organisms may be raised or lowered by the bacteriologist. Under natural conditions their virulence exhibits a wide range of variation, as may be seen in different epidemics of the same disease. Scarlet fever has shown a steady decline in England during the past two decades for no reason that can be suggested other than a change in the nature of the infecting organism. The same thing seems to account in large part for the decline

[7] William A. Brend, *Health and the State,* Chapter II. "Health and Disease."

of tuberculosis among most civilized peoples during the past sixty years.

It is not always possible to separate the influence of natural change from the efforts of sanitarians in accounting for the reduction of disease. The two may go on side by side and the results of the one be attributed to the other. But in some cases there can be little doubt. The reduction of the scarlet fever mortality rate has been a natural process; the control of typhoid fever is an achievement of sanitary science. The reduction of the diphtheria death rate is due to the modern antitoxin treatment; leprosy disappeared before modern medicine and sanitation became effective. Typhus seems to have declined as a result of natural causes.[8] Smallpox has so far declined that according to Millard the advisability of vaccination as a prophylactic is at least debatable.[9]

Preventable Disease.—The causes that have brought about the decrease in the sickness and death rates are not always simple. There is a real need, if the state of the public health is to be understood and wise social measures taken for its improvement, that erroneous beliefs concerning what may be expected from public health measures be corrected. The expenditure of time and energy on conditions only slightly or not at all amenable to control in the present state of scientific knowledge is not only wasted, it reduces by so much the means and energy available for measures that would show results.

Tuberculosis, of all the diseases common to man, is the most widespread and the most deadly. It is responsible for about ten per cent. of the total deaths from all causes in the United States, and for approximately one-fourth of those occurring between the ages of twenty and

[8] "Periodicity of Infectious Diseases," *Pub. Health,* March, 1915.
[9] *The Vaccination Question in the Light of Modern Experience.*

fifty. It has declined markedly in the civilized world in the past half-century, though it is spreading among many of the colored races. There is no reason to doubt that the decline has been in part due to improved sanitary conditions, housing regulations, and control of certain unhealthy occupations. Nor is there reason to doubt that more might, and doubtless will, be accomplished by such measures. But the part played by social measures in the decline of the disease is very easy to exaggerate. "It is to be noted," says Hewlett,[10] "that the decline began long before the germ origin had been demonstrated, and what is more, the rate of decline was almost as great before any administrative measures were taken against it as since." The establishment of a dispensary system in Edinburgh was followed by a marked decline in the disease. The decline was attributed to the system, which in consequence became a model for other communities. But in Aberdeen, without a dispensary, the death rate during the same period showed a greater decline than in Edinburgh.[11] Pearson [12] concludes: "It seems to me that when we study the statistics of the fall of the phthisis death rate, when we notice this fall taking place in urban and rural districts, when we see that it started long before the introduction of sanatorium and dispensary work and that it has not been accelerated by modern increase in medical knowledge, then we are compelled to regard that fall as part of the natural history of man rather than as a product of his attempt to better environment." The white race seems to be acquiring rather rapidly a high degree of immunity to tubercular infection. Intelligent social action will doubtless accelerate the natural decline in the disease.

[10] *Manual of Bacteriology.* 5th Ed., 1914.
[11] W. A. Brend. *Health and the State,* p. 43.
[12] *Tuberculosis, Heredity, and Environment.*

It is also possible that more would be accomplished in the way of improvement of the public health if much of the effort expended on the treatment of tuberculosis were directed into different channels.

The venereal diseases are even more important than tuberculosis and, at the same time, fall definitely within the group of diseases subject to social control. Concerning the extent of the diseases there is not much reliable statistical knowledge. There is always a tendency to deny the existence of anything that is considered objectionable, and prudery, especially in America, has caused many people to consider it immoral even to admit the existence of such diseases. Moreover, the diseases themselves are often in such mild form as to delude the patient into believing that they are not serious.

There is a very general ignorance regarding the serious consequences of these diseases, and this ignorance seems not to be confined exclusively to the non-medical world. Physicians are very generally indifferent toward infected persons and employ methods of treatment and give advice that has encouraged the popular indifference to venereal infection. The attitude of laity and physicians toward gonorrhœa may be seen, for example, in the fact that the number of cases reported only very slightly exceeds the number of cases of syphilis reported. Yet it is generally accepted as a fact that cases of gonorrhœa are about five times as numerous as cases of syphilis. Gonorrhœa is regarded as relatively unimportant. Yet it is known to be the cause of thirty to forty per cent. of congenital blindness and of a large per cent. of chronic pelvic trouble of women as well as of various minor ailments. Sir William Osler, so far from considering it unimportant, says that " From the standpoint of race conservation, gonorrhœa is a disease of the first rank. . . .

While not a killer, as a misery-producer Neisser's coccus is king among germs."

Syphilis, when its indirect as well as its direct effects are considered, is probably responsible for more deaths than any other human disease.[13] In 1919 the deaths from syphilis were reported as 8.6 per 100,000 of the population. But not all deaths due to the disease are so credited in the statistics. It is the cause of all deaths accredited to locomotor ataxia and general paralysis of the insane, as well as of many of the deaths attributed to organic disease of the heart, diseases of the arteries, aneurism, cerebral hemorrhage, apoplexy, Bright's disease, and encephalitis. It is a major cause in the production of mental deficiency.

Like tuberculosis and many other diseases, syphilis appears to be on the decline both in frequency and in virulence. The lessened frequency is doubtless in part due to greater caution and cleanliness and possibly in part to a decrease in sex promiscuity. But it also seems in part due to a partial immunity acquired by the white race during the four hundred years it has been exposed to the disease. The diminished severity of the disease seems best accounted for on the assumption that the disease shows a tendency to die out. The worst forms are now found among the native races of other continents.

So far as medicine is concerned, the problem presented by the venereal diseases is measurably solved. Their transmission is possible only by direct contact. They are curable, though the treatment for syphilis is prolonged and painful. A quarantine of all cases during the infectious stage would cause the disease to disappear. How

[13] *Mortality Statistics,* 1919, Bureau of the Census, p. 38. The argument is presented here that the death rate from syphilis is probably higher than the death rate from tuberculosis.

readily they may be reduced to a minimum was demonstrated in the recent army camp experience.

The obstacles to control are not medical, but social. There is a profound public ignorance regarding sex problems and venereal disease. There is also a vicious moral attitude that tends to perpetuate the ignorance—keep all things relating to sex in the realm of magic. The social stigma attaching to the disease prevents many infected persons from seeking medical treatment or causes them to resort to the quack remedies so widely advertised for self-treatment. The fact, too, that the treatment of venereal diseases is so largely in the hands of advertising "specialists," who charge their victims exorbitant fees and frequently aggravate the symptoms in order to prolong the treatment, deters many in need of treatment from seeking medical aid.

Of the various other diseases some are preventable and require only the application of present knowledge for their effective control or complete elimination. Chief among such diseases are yellow fever, typhoid fever, malaria, and hookworm. Other maladies, as typhus and scarlet fever, seem to have declined as a result of population immunity or possibly as a result of change in the infecting organism and independent of social efforts to control. Still other diseases, as cancer, show no present tendency to decline and, in the present state of medical science, no amenability to medical control.

The Improvement of the Public Health.—There is current an idea that public effort to prevent and cure disease is an unwise social policy. It is argued that the evolutionary process if not interfered with would in time give a disease-free people. The social interference with the selective process, the keeping alive by sanitary and medical measures of individuals susceptible to disease,

prolongs the life of the disease: it will only disappear when the race becomes immune to its attacks through the elimination of persons susceptible to attack. It is true that the control of some diseases may come and in part must come through an immunity resulting from natural selective agencies. It is probable, for example, that natural forces would in time eliminate syphilis as a serious human disease. But the disease, its cause, its means of transmission, and the means for its cure, are all so well understood that it could be eliminated in a period of ten years. Nature would probably require ten centuries to accomplish the same result.

For the immediate improvement in public health the chief thing needed is an application of medical and sanitary knowledge already available. Such a program would eliminate many if not most of the diseases common to man. But a very wide gap exists between what is known and what is done; medical and social science have furnished a large body of knowledge that only needs practical application.

Health is largely a community problem. The gradual recognition of this fact is resulting in sanitary laws, health departments, school nurses, municipal hospitals, and the like. But there is as yet only a beginning. Sanitary conditions are frequently primitive. In the rural districts the water supply, garbage, and sewerage are under personal control; foods are not inspected. Each man's house is what he makes it. In certain cities the sanitary conditions are worse than in the open country. Until less than ten years ago, for example, Baltimore had no system of public sewers. There is need for a nation-wide health-education program to create a public opinion that will demand the abolition of preventable and unnecessary disease.

There is a great need in America for a socialized medicine. Medical attention should be made available to all persons. There is no scarcity of physicians; on the average there is one physician to about 750 citizens. This is twice the ratio in England and France and three times that of Germany and Austria. The rural regions are much less well supplied than the cities, but even in the rural regions the supply approximates the ratios in the European countries.

But the medical profession is rather highly commercialized: its purpose is to provide a genteel living rather than to combat and to prevent sickness. Consequently there is a great deal of illness, approximately one-fourth of the cases of serious illness, without medical attention. Approximately 34,000,000 cases of serious illness each year go without medical care. In more trivial cases that would profit by medical or dental service the proportion untreated is still greater. And of those who receive medical treatment, by no means all get adequate attention. The majority of sick persons are simply unable or unwilling to afford the expense of adequate medical care on the terms of private medical rates. Above all, the energies of the medical profession are chiefly applied to belated cure rather than to prevention of disease, or to the treatment of the minor ailments that become the causes of more serious trouble.

The medical profession needs to be taken off the commercial basis and made a public service. Community medicine is both cheaper and more efficient than service rendered by private practicing physicians. The economic hindrance to health that inheres in the commercial arrangement is made abundantly plain by the increased demand for medical service when such service is brought within the financial means of the members of the group. Dis-

pensaries and clinics wherever established have shown that the demand for medical service increases as the cost of such service decreases. The extent to which it is true is also seen in the experience of colleges which have undertaken to supply medical attendance for students. Professor Commons describes the situation at the University of Wisconsin as follows: [14]

"At the University of Wisconsin we have free medical supervision for 5,000 students. No medical fee is charged. The state is taxed for health supervision of the student exactly as it is taxed for their education. As a result, the students consult the physicians on an average probably four or five times as often during the year as they would if they had to pay at each consultation, besides getting the thorough physical examination at the beginning of the year. The result has been a great reduction in sickness, a reduction in absenteeism from classes, and greatly increased student efficiency. The loss of time due to bed illness has been reduced 40 to 60 per cent., due to the early treatment of preventable conditions. The frequent consultations have reduced serious illness and its complications by at least 50 per cent. During the eight years of this medical supervision the university death rate has been reduced to only one-fourth of the general expectant rate, exclusive of tuberculosis, at the same age period, and even the death rate from the recent influenza epidemic was believed to be only one-fourth of the general death rate attributable to that cause."

The need for a socialized medicine is very generally admitted. It would decrease the cost and improve the quality of the service. Both things increase the demand for medical attention. It would decrease sickness and death, increase the productive capacity and actual production. Prompt and efficient medical service to larger numbers prevents the development of numerous serious and more or less permanent health complications. It reduces the amount of chronic sickness and physical disability, and so it reduces the need for hospital service.

The main opposition to the development of a free health service comes from the ranks of the medical profession. Private doctors oppose free health and health

[14] "A Reconstruction Health Program," *Survey*, Sept. 6, 1919.

insurance as vigorously as private teachers formerly opposed free education. There is also an opposition that comes from the drug interests and the patent medicine concerns. On the part of the physicians there is the fear that it would reduce the income of private practice. This is probably true. Certainly some doctors would be excluded from practice at reputable clinics. But at the same time that it eliminated the quack and the incompetent it would increase the demand for the service of the competent. A free health service would be a body blow to the drug interests in that it would reduce the self-administration of drugs and the consumption of patent medicines. At a pay clinic the total cost to the patient is not greater than the cost of drugs alone if purchased from the drug store at the current exorbitant rates. The annual drug bill in the United States is about five hundred million dollars, most of which is for self-administered drugs. The per capita cost for patent medicines is about one dollar and fifty cents. The source of opposition to a socialized medicine is not difficult to locate.

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CHAPTER XVIII

RACE AND RACE MIXTURES

The Racial Composition of Modern Nations.—It is a generally recognized fact that there are today no pure races with the possible exception of certain relatively primitive and geographically isolated groups. The West European peoples are all very much mixed ethnically and the same thing is true, in some cases to an even greater extent, of the American white population. It is true that this intermixture is, in large part, one of rather closely related stocks; a mixture of branches of the same race rather than a direct crossing of primary racial stocks. But this is by no means wholly the case. In certain countries there is a considerable admixture of Negro blood, while in others the Indian or the Oriental has modified the type through amalgamation with it.

The Racial Groups in the American Population.—Within the population of each of the modern nations there are groups of racially divergent stock in process of amalgamation. This is markedly the case in the newer countries of European civilization, where the relatively recent settlement as well as the phenomenon of immigration has brought widely differing peoples into contact. The present discussion is confined to the American situation. Here, in addition to a white population of diverse origin, are present in considerable numbers the Indians, Chinese, Japanese, Mexicans, Hindus, and Negroes, each of whom presents a population problem with a different angle.

The American Indians and Indian mixtures numbering something above a quarter of a million are in large

part isolated on special reservations, though a small number have been assimilated by white culture and are scattered through the general population. Many of the reservation tribes are much mixed with the Negroes and some have been nearly or completely absorbed into the Negro groups. They are a numerically unimportant and a culturally negligible group destined presently to disappear without having seriously influenced for either good or ill the quality of the country's population.

The Oriental elements have created an acute race problem wherever members of these races have been present in numbers. But the number of admissions has been comparatively small and of those admitted a high percentage have been males. Because of their isolation, and owing to their divergent appearance, culture, tradition, and language, the intermixture with the whites has been slight. Where such amalgamation has taken place the social results have not been such as to counsel its indefinite increase. But the Orientals nowhere constitute any appreciable numerical proportion of the population and, in view of the policy of the Federal government forbidding their entrance in number, they present no population problem of serious dimensions. They bid fair presently to disappear without having produced any change in the American population type.

The recent admission of Mexican laborers introduced another racial group that promises to become increasingly important in its population effects. These people of Spanish blood on an Indian base are somewhat backward in culture, and sufficiently divergent in appearance to make their presence a racial as well as a political and economic problem. Their admission probably does nothing to improve the present quality of the population stock.

The presence of groups of different race and culture,

even though the numbers be small, is a matter of importance from the standpoint of the population. Their presence may lead to an acceptance of culture facts and an incorporation of the divergent stock into the population body, or the reaction may be a negative one, a rejection of the strange culture ideas and an intensification of a latent racial prejudice. Whether their presence leads to a positive or a negative reaction, it will inevitably leave its imprint on the life and character of the society. But, important as these racially divergent groups may be, their presence is of insignificant import as compared with that of the Negro. He is a permanent element of the population and is here in sufficient numbers to merit special attention from the point of view of the quality of the population.

The Numerical Importance of the Negro in the American Population.—Of the total American population approximately eleven million are Negroes or individuals with a considerable admixture of Negro blood. This is about three times the total population of the country at the time of the adoption of the Federal Constitution and somewhat larger than the present total population of Canada. This Negro element has increased with great rapidity and promises to continue to be an increasing element in the population of the country. At the same time that the numbers of the group have been increasing, their percentage of the total population of the country has decreased. It is not probable that their decline in relative numerical importance will long continue. Physically the Negroes differ somewhat markedly from the other races and among themselves. They are descendants of several African tribes incompletely fused. In consequence, there is a considerable variation in physique, skin coloration, hair formation, and other more or less super-

ficial physical characters even where the group is not farther modified by an infusion of white blood. There is some evidence that the race is not so variable in hereditary endowment as is the white. There is also some evidence that the Negro is inferior from the point of view of health, at least so far as the American environment is concerned. The death rate is high and the life expectancy is less; especially do they suffer from tuberculosis. But the evidence in this direction will be more convincing when the Negroes have been allowed housing and sanitary arrangements somewhat more comparable with those of other groups of the population.

Characteristics of the Negro People.—There is an increasing body of evidence which seems to indicate that there are some fundamental temperamental characteristics native to the Negro peoples. They seem to be somewhat less aggressive than white men, and to show somewhat less power of initiative, and are not so apt at organization. Common opinion also attributes to them a sunny, good-natured, gregarious disposition; strongly developed sex impulses; a natural courtesy and human friendliness; an impulsive and open-handed generosity; an intense love of music; and various other positive characters that seem to be independent of time and place, and seem, therefore, to have some racial basis.[1]

It must be remembered, however, that certain of these characteristics may be purely adventitious, explainable in historic rather than in racial terms. The sunny disposition and the good nature may be an unconsciously developed means of control. Inaptness at organization argues an absence of occasion and opportunity rather than incapacity. Courtesy may be protective rather than

[1] Robert E. Park, "Education in Its Relation to Cultures," *Publ. Amer. Sociol. Soc.*, 13:38–63.

native. Shiftlessness, indolence, improvidence, and the whole group of negative qualities so generally cited as characteristic of the race, so far as they are characteristic, are to be explained, as are similar traits in the white man, as being due to discouragement, hopelessness of outlook, undernourishment, and the various psychological and physiological accompaniments of a depressed social status. And so in regard to most of the characteristics both positively and negatively attributed to the race and popularly explained in racial terms; they seem for the most part to be not racial traits but a socially induced condition.

The Question of Race Capacity.—The presence in numbers of this racial group makes the question of their relative worth and capacity one of first-rate social importance. If they are substantially equal in cultural capacity, a differential race increase is an interesting biological phenomenon but not one of cultural significance, and the widespread fear of a mis-population of the country through the multiplication of these people is without cause. But if there exist intrinsic differences that make the race less fitted than the white to increasingly people the earth, these differences should be understood and measures devised to limit and control the multiplication. The question is rendered difficult by the existing racial bias.

The general folk opinion doubtless is to the effect that the different racial groups are of markedly different capacity and human value. The Negro is considered an inferior order of creation. The physical and the cultural differences are fairly obvious and the tendency is to carry over these observed differences and infer from them a lower mental capacity and human worth. In support of the position it is argued, for example, that the Negro has nowhere in his rather varied native environment and

long history risen above a rather low culture stage. Further, when he has been removed from the African environment, he has not measured up to the white man's culture. And when left to his own resources, he has not risen but has even lost such culture as he acquired through contact with the white man. In America, he is said not to have attained the white standard; in Haiti and elsewhere he has tended to drop away from the white culture previously acquired. The conclusion is usually drawn that the Negro is, in some essential respect, lacking in the factors which make for an advanced stage of culture; that he is an inferior creature.

The popular opinion has been until very recently supported by the bulk of scholarly opinion, the scientific as well as the popular view has been that of an hierarchy of races. The races were believed to be unequally endowed by nature or, if originally of equal capacity, to have acquired a different value through the process of natural selection, which developed in each race innate characters fitted to cope with the environment in which it evolved. The Negro, isolated in a region where the abundance of natural foods made effort and exercise of ingenuity unnecessary in order to survive, and where the great heat and humidity eliminated the energetic and left the indolent to father succeeding generations, was believed to be, by virtue of natural adaptation to these climatic conditions, indolent, averse to severe bodily labor, unambitious, and lacking in initiative. Nature discouraged activity and put a premium on lethargic indolence. He was believed to be superior to the white man in the tropical environment but inferior in natural adaptations to a complex civilization. The sex impulse, by the same selective processes of nature, was thought to be highly developed. The equatorial conditions, expressing them-

selves through disease and pestilence, made for a high death rate; consequently the more highly sexed and prolific individuals tended to survive and so to perpetuate an excessive sex tendency. And so in various other respects it was believed that the Negro was fitted by the selective processes of nature to a savage environment and represented an earlier development of the human species.

Most of the researches of physical anthropology supported the view of a natural hierarchy of races. There are marked physical differences between races. The average brain weight of the Negro race is less than that of the Caucasian and there are various anatomical differences of a minor sort. There is a difference in physiological growth and maturity of the different races. These and other facts led to the conclusion that the Negro was nearer to the childhood of the race and had in consequence a series of characters that the more advanced races had lost. His somewhat smaller brain was supposed to correspond with this lower state of physical evolution and to imply a less effective mentality.

This somewhat crude conception of biological adaptation and the hierarchy of races is not so generally held at the present time. It proves rather too much. The inference from the relative size of brains also involves the somewhat questionable procedure of inferring function from structure. The size and gross structure of an organ is an unsatisfactory basis for determining its efficiency.

This general modification in the estimate of Negro inferiority has come in for much reinforcement in recent years through the development of experimental psychology and the application of the technique of mental tests in the study of race capacity. However, such tests, psychological and educational, as have been applied to

members of the group show with much uniformity an inferior capacity on the part of the Negro. The native reactions are said to be different; there is a difference in learning capacity; and the differences are said to be of kind as well as of degree. They everywhere do relatively poorer work in all grades of the school and in all types of study. The mental differences are said to be important and constant. The results vary somewhat with the investigation, with the nature of the tests, and according as care is taken to separate the mulattoes from the unmixed elements of the race. The results place the Negro from one-half to three-fourths as intellectually capable as the white.

But these findings of experimental psychology are reached by the manipulation of a technique which is still in the experimental stage. The effort to separate the complex and imperfectly understood effects of training and environmental association from native capacity and to subject the latter to exact measurement has given some notable results. But the problem takes on a new complexity and some added difficulty when differences of race are added to wide differences of environment and training. As yet we are by no means sure that the uniformity with which these early tests of Negro children confirm the popular opinion of the Negro's mental inferiority is not due, at least in part, to the failure of the tests adequately to distinguish between native ability and personal sophistication. Much may be hoped from this technique with its farther development, but it is not possible to accept the preliminary findings as conclusive or even as highly significant in regard to the relative capacity of races.

Evidence along sociological and ethnological lines seems to indicate, speaking broadly, that the inherent dif-

ferences in the quality of the races is much less than has been supposed. The present evidence gives ground for the belief that there is no such thing as an inferior race in the old sense of that phrase. No race is lacking in any essential characteristic of the human mind. That one race may be and often is culturally superior to another at a given historical period there is no reason to question. But differences in educational and environmental opportunity are sufficient to explain existing differences in culture without recourse to the assumption of inherent differences in biological capacity. Superiority and inferiority are phenomena that relate essentially to the time of observation; the relative status of peoples may change without change in the ethnic composition. The differences between populations are mainly differences in culture. These are explained in psychological, moral, and sociological terms; not in terms of biology.

There is thus a somewhat wide divergence of opinion in regard to the mental capacity of the Negro people. But the large number of Negroes who have measured up in the short period of opportunity to high standards of culture and attainment makes it clearly evident that the race is not so lacking in mentality as was once believed, and makes dubious any attempt to set boundaries to the degree of culture that the group may attain. The consensus of scholarly opinion at the present time is to the effect that the Negro is not lacking nor markedly inferior in any essential character of mind; he appears to be approximately equal to other races in his capacity to acquire civilization. The question remains an open one with the accumulating evidence preponderately on the side of essential mental equality.

The American Miscegenation.—An element that enters in to complicate the American Negro situation is the

extent to which the race has undergone modification through sexual contact with the white race and, in lesser extent, with the Indian peoples. The official figures give about one-fifth of the total as Negroes of mixed blood. But inasmuch as the official count distinguishes only those obviously of mixed ancestry, the number of mixed-bloods is doubtless understated. Probably one-third of the American Negroes show some trace of intermixture; some students of race problems estimate the number actually mixed in some degree to be as much as one-half or even higher. This mulatto element, using the term mulatto in the popular sense of any individual of a white and Negro ancestry regardless of the proportions, is a rapidly increasing one and destined to replace the full-blood group at no distant date.

The biological consequences of this race crossing are by no means clear; the matter has not been made the subject of any extended scientific study.[2] The general tendency in the United States has been to recognize no difference between the mulattoes and the Negroes of pure blood and there has been in consequence a failure to accumulate any body of fact concerning the race that has scientific value. The assumed good or bad effect of race crossing has been debated at considerable length, but on such a slender basis of established fact as to render the whole discussion practically sterile. There is some evidence of a medical nature to indicate that the mulatto occupies an intermediate position in regard to health, but the greater susceptibility to disease and less vital expectancy on the part of the full-blood Negro may be a social rather than a biological fact.

The intermixture of the races, which dates back to the

[2] J. G. Wilson, "The Crossing of Races," *Pop. Sci. Mo.*, 79: 486–495.

first entrance of the group into America or even earlier, has taken place under most unfortunate circumstances.[3] As an inferior and servile group, it has furnished the mothers for a considerable illegitimate progeny. In the early and Colonial days the Negroes came much into contact with other servile classes, as well as with certain Indian groups, and a mixed-blood offspring often resulted from this association. In some cases it was an association of Negro men with white serving women though the opposite sexual order was the more common one. There was also some little intermarrying between these classes, though this was generally early forbidden by public sentiment and legal enactment.

But sex relations with the Negro women were by no means confined exclusively to the socially inferior and servile classes of the white group. The more prosperous slave-owning class was responsible for much of the intermixture. Wherever there was a scarcity of women of the superior caste, and this was very usual, especially in the early periods, there was an immense stimulation to the association of the opposite races. In some sections the concubinage of colored women approached the form of a polygynous sex system. There was nothing to hinder such association except the public sentiment of the community and this was widely different in different sections.

The present-day mulattoes are of course in the preponderating number of cases the offspring of conventional marriage relations of mulattoes with mulattoes or of mulattoes with Negroes of pure blood. In some cases they are the result of marriages of Negroes or mulattoes to white persons. There is also, of course, a great deal

[3] E. B. Reuter, *The Mulatto in the United States,* Chapter VI, "Nature of Race Intermixture in the United States," pp. 127–165.

of extra-matrimonial association of the races in the South but, in the present day, this approaches in perhaps the majority of cases a form of prostitution and seems to have less influence than formerly on the increase of racial crosses. The rapid increase in the number of mulattoes does not imply, as is so frequently assumed, an increasing intermixture of the races; it is rather the result of the wider diffusion of the white blood already in the race through intermarriage of the mulattoes and the Negroes and the marriage of the mulattoes among themselves.

The intermixture of the races will of course continue. The only effective barrier to racial intermingling is geographic separation. The races are indefinitely fertile and sex attraction is not limited by barriers of race. The artificial barriers raised by legal enactment and social edict suffer violation when they run counter to the forces of individual attraction. And the farther amalgamation progresses, the more rapidly will the process tend to go on; the modification of the Negro's appearance by intermixture replaces the extreme strangeness by modified difference and fascinating variety of type highly stimulating to the exogamous tendency of man. Also, the increasingly cosmopolitan nature of the American population, resulting from the introduction of the European peasant folk, with a social and economic status not greatly superior to that of the Negro and without the social prejudice against the race, will further increase the hybridization. Racial isolation is not possible in the modern world and an indefinite intermixture of the races is inevitable. Whether or not the idea is a pleasing one it is nevertheless a fact that the American Negro group will presently disappear into the general population. The only factors under control by legislative means are the conditions under which this hybridization shall take place.

The Status of the Mulatto.—The number and importance of the mulattoes in the Negro group and the certainty of their farther increase makes necessary a consideration of their social status and place in the present racial arrangements.[4] The biological consequences of amalgamation, as has been pointed out, are not well understood. The sociological effects turn upon the prevailing customs and sentiments of the groups concerned.

In America, as in nearly every other country where two divergent races are in contact and have associated to form a mixed race, individuals of mixed blood occupy an intermediate social status. In the matter of education and the intellectual life, in the professions, in business and economic life, in social leadership and the formation of public opinion among the colored population, they everywhere lead. The colored men who have risen to eminence in literature, science, art, or statesmanship have been, in nearly all cases, from the group of bi-racial ancestry. In very few cases have full-blood Negroes risen to positions of first rank in the councils of their race.

In explanation of this phenomenon, resort is commonly had to biological facts. The mulatto is pointed to as a superior man because he is in part a white man. He is thought to have the energy and ambition of the white race by virtue of his white ancestry; the full-blood Negro is said to be indolent and unambitious. But here as elsewhere the importance of heredity as a factor in social success is easily and generally exaggerated. The assumption was the natural one so long as the idea of a mental hierarchy of races was a tenable position. But with the establishment of the fact that the races are much

[4] E. B. Reuter, *The Mulatto in the United States*, Chapter XII, "The Rôle of the Mulatto in the Inter-Racial Situation," and Chapter XIII, "The Rôle of the Mulatto in the United States."

more nearly equal in capacity than was formerly supposed, it becomes difficult to account for the observed superiority of the mulattoes in this way.

It is, however, not necessary to resort to the assumption of an inherent superiority of the mixture over the black part of the ancestry to account for the superior social and mental status; the facts are sufficiently explained in social and psychological terms. The mulattoes have enjoyed a superior opportunity for the acquisition of culture. As slaves they were assumed to be superior and were given superior opportunities; they were given the lighter occupations, those requiring the exercise of more intelligence; they were more in contact with the superior class, as body and house servants, and in various confidential and personal relations. Their relationship to the master or the master's family frequently secured for them special consideration and privilege and opportunity not accorded to other members of the servile group. They enjoyed more freedom as slaves and were more frequently the ones who were freed from servitude and its cultural handicaps. Many of the present-day mulattoes are descended from several generations of freedmen who had a tradition of superiority while the bulk of the race was yet in servitude. They have had somewhat more time to advance and have had and do have somewhat more encouragement in their efforts to do so. Nearly the whole force of the social and psychological situation has been exerted to produce the superior status.[5]

The Problem of the Negro.—In spite of the confident assertions of certain psychological experts to the contrary, and the testimony of men of long association with the

[5] For the evidence that this superior social status tends toward the production of an inherently superior group, see E. B. Reuter, "The Superiority of the Mulatto," *Amer. Jour. Sociol.*, 23: 83–106.

Negro people, there is probably no sufficient ground for the general opinion that the race is so inferior by natural endowment as to be forever incapable of reaching the level of white culture and destined, therefore, always to remain an inferior group in the population. That the culture differences between the races are, at least in the main, matters of custom and tradition is coming more and more to be the consensus of scholarly opinion. A longer period of contact and opportunity will obliterate peculiar habits of mind, and members of the race will reach in increasingly large numbers the higher levels of modern culture.

But at the present time the race as a whole is poor, ignorant, and inefficient. The Negroes were not equipped for the economic struggle at the time of emancipation and property has accumulated slowly. The amount of actual dependency is great, although their free and easy generosity to each other diminishes the number of appeals to organized charity. In education they are backward. The schools are utterly inadequate, the percentage of attendance is low, the school terms are short, the teachers are often inefficient, and the equipment is meagre. The amount of vice and criminality, as measured by police and court records, is high. As a result of poverty and ignorance they live under conditions that make mental and physical efficiency well-nigh impossible. The group as a whole is backward, discouraged, and lacking in pride of race or achievement.

Moreover, there exists on the part of the white group a racial prejudice, the expression of historic and social conditions. This attitude expresses itself in an exclusion of the Negro. He is isolated, by virtue of law or custom, from practically all the higher expressions of human culture. This isolation—exclusion from schools, churches,

theatres, desirable residence neighborhoods, social contact with cultured people, and all that is elevating in modern life—tends to the perpetuation of the lower culture, makes difficult the advance of the Negro group, or the emergence of the talented individuals. It also makes easy if not inevitable the economic and sex exploitation of the group. Because they are poor and ignorant and unorganized, they are disfranchised, browbeaten, exploited, and oppressed.

It is a serious handicap to a community to have its social behavior emotionally determined. The refusal of a community to use the latent talent it contains inevitably results in the retardation of the progress of the group. Social talent is pitifully scarce at best and the group that, to indulge a caste or color prejudice, refuses to make use of the talent that it has is destined to be a laggard in the social progress. But it goes farther than this. In addition to making use of only the part of the native talent that is born of white ancestry, color prejudice forces whole communities to subject themselves to the inconvenience and expense of maintaining a dual system of institutions. As a result the institutions of neither group can nor do compare in quality or in quantity with those of other sections. In education, for example, there are communities, unable adequately to support one good set of schools, which undertake the maintenance of a separate set for the colored and the white children. As a consequence the illiteracy and general ignorance, the intellectual and social backwardness of both the black and the white, is pronounced. That any community should thus handicap itself and still expect to keep pace with the advancement of the modern world is evidence of the essential stupidity of man. Such groups must be backward, and being backward they develop as a protective coloration a certain pride in their backwardness and in the archaic nature of

their institutions. Progress becomes ancillary to a caste mania.

The problem of the Negro in America today is largely the result of the existence of this traditional attitude which isolates and handicaps the racial group in its cultural advance, and makes backward the whole social situation in which the group must live. The Negro must live in the atmosphere of contempt and dislike and make such advances as he may, economically, educationally, culturally, in spite of it. But the Negro is making advance and with every advance becomes less tolerant of injustice and abuse and more insistent that he be allowed the rights and opportunities of other members of the society. And every advance that he makes quickens the prejudice of those persons who are convinced of his native inferiority and determined to keep him socially inferior. The problem is to maintain a friendly working relation between the races during such time as may be required for the disappearance of the handicapping prejudice, through the enlightenment of the whites, and the ultimate disappearance of the problem through the disappearance of the Negro himself.

Artificial barriers to the acquisition of culture must everywhere break down as a result of the influence of civilization. The line of color seems destined to cease to be the line of caste. Approximately equal opportunity would create an aristocracy on other lines than that of skin coloration. Increasing communication and contact and the consequent increasing uniformity of ideas, customs, and standards would minimize racial differences. Competition eliminates, selects, and brings men together on other bases than those of tribal marks. Above all, personal competition must supersede caste competition,

which puts groups rather than individuals in positions of inferiority and superiority.

In the meanwhile, prejudice, and the consequent difficulty of friendly relations, tends to increase just in proportion as the Negro merits a consideration that the prepossessed white man is not willing to accord him.

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CHAPTER XIX

IMMIGRATION AND THE QUALITY OF THE POPULATION

Introductory Statement.—The phenomenon of American immigration is not a discrete social fact, but a phase of the whole economic and social life of the community. It is interwoven into the social fabric, influencing it and in turn being influenced at every point. In consequence some violence inevitably is done to the unity of the social structure by any attempt to consider it in isolation. It is nevertheless possible and seems to be desirable to consider certain phases of the phenomenon aside from the complexity of the social situation of which it is recognized to be a part. There is no intention in the present connection to treat the whole problem. Only those phases bearing directly upon the question of the quality of the population are considered and by no means all of those.

In a previous chapter the effect of immigration on the population number was considered. That consideration led to the conclusion that, so far as the modern type of immigration is concerned, it has the effect of locally and temporarily increasing the population, but, over any considerable period of time, its effect on numbers is negligible. In the present connection we have to do with certain phases of the phenomenon that affect the quality of the population stock.

It must be at once evident that the introduction of a large number of people differing in any way from the existing population body makes an immediate change in the general average of the group. There is no question

concerning the important influence that the incoming groups have had on the industrial, political, and social life of the country. The institutions, customs, and traditions have undergone important and sometimes radical changes in adapting themselves to the changing group they have had to serve. More important is the fact that changes that would otherwise have come about have not done so because of the changed character of the social group. It must be equally evident, owing to the facts of biological inheritance, on the one hand, and to the continuity of the social tradition on the other, that these effects will in some measure be transmitted, and possibly may be intensified with the passing of time. Any other assumption is in effect a denial of the existence of a causal relation in the sequence of social phenomena.

The question of immigration as affecting the quality of the population turns in the first instance on the relative capacity of the immigrant races and peoples as compared with the receiving population. This question has already received some attention and will be reverted to in a later paragraph of this chapter. In general the conclusion arrived at above was that, so far as innate human capacity is concerned, there is probably little choice between the different races and peoples immigrating to this country.

The second question, that in regard to the effects of the amalgamation of diverse stocks, has also previously been considered. The question has not been made the subject of conclusive scientific study on the biological side and no dogmatic pronouncement may be made at the present time. It is not possible to assert that the blending of races will not be most satisfactory, nor is it possible to assert the contrary. The experiment of the blending of stocks, closely related and widely divergent, is in process in the Americas and elsewhere on an enormous scale

and the apparent results are not such as to counsel that it be unnecessarily increased.

The third question, that of the sociological effects of the contact and commingling of diverse peoples and races on a large scale, is yet to be considered. The displacement of stocks, of standards of living, of national characteristics, and other social, psychological, and economic effects of the incoming groups are matters of consequence in this connection. Before passing to a consideration of these, it is necessary to give some attention to the racial and stock changes that immigration has made and is making in the population.

The American Stock.—From the point of view of quality, the early American population was of a rather uneven sort. The New England Colonies were founded by religiously motivated persons of a hard and practical sort. They held to certain ideas and ideals with sufficient tenacity to be willing to suffer exile for them and this fact gives some justification to the common idea that they were a superior group of men and women. In Virginia, and in general in the other Southern Colonies, the stock was rather more mixed. The colony was a speculative enterprise on the part of a group of adventurers. A few royalist families were added, especially during the rule of Cromwell, but the population was, in the main, made up of merchants, tradesmen, and other middle-class people, redemptioners, indentured servants, deported convicts, black slaves, and kidnapped children from the slums of the English cities. The Central Colonies were settled chiefly by other European peoples: New York by the Dutch; Delaware by the Swedes. Among the colonists there was some superior stock and a good deal of a rather poor quality. The average probably ranged somewhat downward from the European norm.[1]

[1] See note 6, Chapter XV.

There is some evidence that the physical quality of the Colonial stock was improved by the voyage and by the life in the new country. The fearful hardships of the passage may have deterred some who would otherwise have come. As it was, a goodly share of each shipload died in passage, and it is probable that the death rate of the physically weak was higher than that of the more robust. The frightful death rate among the settlers was possibly also selective in its effects.

The North European Immigration.—The hundred years covered by the immigration statistics divides, on the basis of the national origin of the immigrating peoples, into two periods of unequal length.

During the earlier decades of the statistical century the number of the incomers was a small but increasing one. In the decade following 1845, the famine in Ireland swelled the number of immigrants from the United Kingdom. The numbers subsequently fell off, though there continued to be a considerable and relatively steady stream to the beginning of the European War. The Revolution and the unsettled political conditions in Germany led to a large emigration to America in the decade following 1840. There was a renewed immigration in the decade following the Civil War, falling to small numbers during the middle seventies, and then rising to its greatest total of over a quarter of a million for the year 1882. There was then a rapid and pretty continuous fall to the relatively insignificant numbers received from Germany during the twenty-year period preceding the European War.

Compared with that from the United Kingdom and Germany, immigration from other North European countries has been small. The number contributed by the Scandinavian countries was wholly insignificant until after the American Civil War. It rose to its greatest

figure in 1882 and afterwards continued in much smaller but still considerable numbers to the period following 1914. From the Netherlands, France, and Switzerland there has been a continuous immigration, but a mere trickle as compared with the main streams.

These countries furnished the great bulk of the immigration up to 1882, at which time the immigration reached the highest point it was to reach for a period of twenty years. During the sixteen following years of falling immigration numbers, these countries continued to furnish the bulk of the incomers. It is the immigration from these countries that comprises what is so generally spoken of as the old immigration.

The great majority of the incomers differed in no fundamental way from the colonists and early settlers. The largest numbers came from the United Kingdom [2] and the others were of rather closely related racial stocks. The language of the Germans and the abject poverty of the Irish held them apart for a time, but there were no serious cultural or racial problems. All were of the same color. The languages even when different were related. The standards of living, except in the case of the Irish, were similar. The culture was North European. All had passed through the Renaissance. The mores were congenial and the incomers readily assimilated.

The Immigration from Southern and Eastern Europe.—During the closing decades of the last century the conditions of American life were undergoing a rapid transformation. The settlement of the free land was practically completed well before the end of the century

[2] The total immigration during the one hundred years included, in round numbers, eight million from the United Kingdom, five and one-half million from Germany, and three million from the Netherlands, France, and Switzerland.

and a new form of industrial exploitation was rapidly getting under way. The change in the character of the opportunity America had to offer made a change in the character of the immigrants she attracted. With the decline of free land and open resources, America had little left to attract individuals and families from North European countries of a similar high standard of living. It had more to offer that was attractive to individuals of a less bold, adventurous, pioneering temperament and hence began to make additions to its population from countries with larger and more docile populations with a lower standard of living. America became attractive to a new type of immigrant for the same reason that it was ceasing to be attractive to the old: it offered increasing opportunities for a steady wage employment and decreasing opportunities for success in independent enterprise. The free land was practically gone and the immigrants, instead of settling the public domain, entered the labor market.

The change in the racial character of the American immigration dates from the last decade of the nineteenth century. Prior to that time it was preponderately North European in origin. Subsequent to that period it became increasingly and, latterly, preponderately South and East European and Asiatic in race and culture.[3] This so-called new immigration is of three chief sources, though a dozen or twenty races and nationalities have made considerable contributions.

The Italian immigrants came in insignificant numbers during the first half of the hundred-year period. They composed a considerable proportion of the total

[3] In 1913, the last year of unrestricted immigration, 14.91 per cent. of the total came from countries of North and West Europe; 84.88 per cent. came from Southern and Eastern countries.

immigration during the two decades at the end of the nineteenth century. The number then swelled suddenly and remained at a yearly level of close to one-quarter million until the opening of the European War, when the numbers fell to near zero.

The immigration having its source in the Austro-Hungarian Empire very closely parallels the Italian. It was insignificant prior to 1880. Then began a considerable rise, which first assumed formidable proportions about 1900. For the following fifteen years the yearly average was somewhat under one-quarter million with an almost complete cessation following 1914.

Immigration from Russia was practically nonexistent during the first half of the period covered by the statistics. Then began a slow, gradual rise with relatively little fluctuation for the following thirty years. The early years of the present century marked a sudden expansion which made Russia the third important source of American immigration during the twentieth century.

Other European countries, notably Greece, Turkey, Portugal, Belgium, and Roumania, have contributed approximately a million since 1900. In the decade prior to the European War an immigration of about three-quarters of a million came from British North America. This, also, is a group alien in blood, language, and tradition from the older American stock, representing, as it does, the hybridized stock of French-Indian ancestry of the Lower Canadian Provinces. A smaller immigration of a hybrid stock of Spanish-Indian has recently set in from Mexico. The Japanese are also to be counted with the new immigration. From the West Indies in the period since 1900 have come about a quarter of a million immigrants, a large part of whom are Negroes with varying degrees of dilution by intermixture with

the whites. A similar Portuguese-speaking group has come from the Azores.

The Displacement of Stocks.—Concerning the change in the sources of the American immigrants of the earlier and the later type, there is, of course, no difference of opinion. The facts are fairly well and pretty widely known.

Nor is there any difference of opinion among social students, that this change in the character of the population must reflect itself in the changing character of the American customs, institutions, and traditions. Education will do much to change the mental pattern of the incomers, but people modify institutions as surely as institutions mold people. The present standard of America in the scale of civilization is the result of the peculiar natural conditions and the type of people who settled the country. That it would have been different, politically, industrially, culturally, and socially, had it been settled by people of a different racial stock and different history, tradition, and culture, like that of which the later immigration is chiefly composed, there is likewise no difference of opinion.

And it is also a generally recognized social fact that where people, not too far apart in cultural standards, come into contact and competition the people of the higher standards of living are displaced by those of the lower standard. This is simply a specific case of the phenomenon of succession that may be observed anywhere in the plant and animal world; there is the frequent gradual replacement of one type by another. That this is at present taking place in the American population is a much advertised fact. In all parts of the country where they come in contact, the immigrant is supplanting the elder American stock, and the older of the immi-

grant stocks are being supplanted by those of more recent entrance.

The only real point at issue concerning this population phase of the immigrant phenomenon, so far as the discussion runs on a basis of fact, is concerning the desirability of this displacement. There are those who, observing the process and rate of displacement, fear that the elimination of the older and the substitution of the newer stocks will carry with it a substitution of cultures and a corresponding decline in the American civilization; that with the stock will go the ideals and the aspirations which have given America her distinctive place in the family of nations. There is no sufficient reason to believe, as these people see it, that the immigrant type of South and East European and Asiatic origin is capable or willing to advance or even to maintain the civilization from which they are displacing the originators.

Others, with more faith in the permanence of a culture once produced and possibly with a greater belief in the modifiability of human nature, believe that a process of "Americanization" will fit the immigrants of the newer racial and cultural type to be worthy successors of the stock they displace. There is reason to believe, as they see it, that the blending of cultures and of races will result in something better in culture and people than the present or the past. The immigrant people of the newer stocks are industrious, thrifty, and intelligent, and are frequently said to be prolific in the artistic sensibility that is otherwise so deficient in America. Miss Jane Addams [4] has advanced the theory that it is from the depressed immigrant groups of the American cities that the future ideals of civilization will come. The uprooting has destroyed the old traditions and they have not acquired

[4] *Newer Ideals of Peace,* see Chapter I.

an American tradition. There is nothing remaining but the fundamental human nature. Unencumbered by the impedimenta of a traditional culture, they are in a position to initiate new and higher ideals.

There are others who rejoice in the displacement process. Frankly hostile to America and to North European culture, they would gladly see it replaced by the standards and traditions of Central, South, or East Europe or of the Oriental world. Closely related in sentiment are those who, hostile to the growth of democracy, or fearing its extension into the industrial world, see as the result of the phenomenon of modern immigration the growth of a proletarian class and thus a more stable basis for the farther development and the more certain perpetuation of the existing economic order.

The Quality of the Newer Stock.—Aside from the matter of the changing racial stock of the American population is the question of the representative character of the immigrating individuals. Granting a substantial equality of racial stocks, the question is whether the incomers are a fair average of the intellectual and physical ability of their races or whether they are superior individuals and families, or individuals and families from inferior strains defeated in the social struggle at home.

The original American stock was, by and large, not a particularly superior one. There were individuals and possibly groups of a superior type. The New England stock contained a rather high proportion of superior men. The French Huguenots were a gifted group. The deported political prisoners probably represented a superior type. But there were also individuals in great number as well as whole immigrating groups of mediocre and probably sub-common type, whose entrance added little except numbers to the population. The pauper and

depressed classes sent to rid English cities of the burden of their support probably contained a high percentage of poor material. The German Mennonites appear to have been of very mediocre ability, though it is possible that their inferiority may have been as much due to their cultural peculiarities as to their natural lack of sense. The bulk of the original stock, there is little reason to believe otherwise, was fairly representative of the North European population, but it probably verged downward rather than upward from a representative group.

A closely similar statement will hold true for the older immigration: it was both good and bad. It is probably true that the opportunities and the open resources of the new country tended to attract a type of adventurous-minded men, gamblers with fate. Also the unsettled political and religious conditions in many of the European countries sent a type of bigoted as well as of independent-minded men. The German migration of the late forties contained a high percentage of talented men. But the conditions also sent an immense number of paupers, prostitutes, Negro slaves, and other degraded and outcast persons. So far as there exists any correlation between social status and human worth, this social riffraff added little to the general average of ability and worth of the country's growing population.

As concerns the newer immigration, the motive for coming is somewhat more consistently an economic one. The conditions of life are more settled and so more attractive to gentler types of men. The demand is for manual labor and the incomers represent in large part the peasant class. The conditions of travel are easier and the means of transportation cheaper. The artificial stimulation to migration is greater and more persistent. The immigrants come because of the attraction of the

higher wage rather than for the chance for free political and social life and the gambler's chance of large success. As a partial offset is the fact that there is now some official inspection of incomers and some are denied entrance who earlier would have been admitted. Some effort is made to exclude certain defectives and persons with certain beliefs and doctrines as well as certain racial groups. This doubtless excludes some valuable material but also excludes some that is physically bad. This selective process probably does a good deal to raise the quality of the stock admitted. There seems to be no evidence sufficient to prove the commonly held idea that the present incomers are seriously below an average of their separate racial groups. They may be so. They are preponderantly from the lower social and economic orders of society, and this is frequently taken to mean a less degree of native worth.

Social Effects of Immigration.—It is probably true that the American population, so far as its biological quality is concerned, has undergone no particular deterioration because of the introduction of new racial elements. When the attention is turned from the biological to the sociological phases of the problem, the matter presents a somewhat different aspect.

The present-day immigration is quite radically unlike that of thirty years ago. The introduction of the new physical types, quite aside from any question of comparative race values, has intensified and extended the prejudice of race and color. The old immigration, excepting only the Chinese and the Negroes, had no outstanding physical features making for a permanent separation. In the latter-day immigration such physical marks are the rule. This change in the physical type of the incomers

seems to have somewhat intensified the tendency toward a caste order of society.[5]

In language, the recent immigration is nearly all non-English speaking. Catholicism is the prevailing religion. For the most part the recent immigrants are without experience or tradition of representative government. The average of education and literacy is very low. The psychology is, for the most part, that of an hereditary peasantry. Their moral customs are in many respects quite strongly contrasted to the prevailing American standard. Consequently, the immediate effect of the immigration is a lowering of the average tone of the population. Religious matters settled some hundreds of years ago are reopened. Political democracy becomes more unworkable with the increase of the peasant-minded. Steps toward the emancipation of women and the education of the child are retarded. The literacy of the population is lowered. The power of the priesthood is increased. The result of the presence of the docile and stolid peasant is, at least for the time, to lower the intellectual, political, moral, and religious status of the country.

The crisis in the life of the peasant, uprooted from the traditional and fixed status and transferred to the American situation with its absence of fixed standards, is a severe one. The new social situation calls for a rather thoroughgoing readjustment in manner of life and manner of thinking, which the peasant is not in all cases able to make. In the process there emerges a large amount of failure expressing itself in poverty, pauperism, and miserable conditions of existence. The younger genera-

[5] H. G. Wells, *The Future of America*, pp. 140ff.
Walter E. Weyl, "New Americans," *Harper's Monthly*, 129 (1914), 616ff.

tion, without the standards of the parents and unassimilated by American life, erupts a large amount of criminality and other non-social phenomena.

The immigrant has been habituated to a standard of living lower in most respects than the American norm. His introduction, therefore, automatically lowers the average of the American standard. One effect of this lower standard of living is an economic competition in the labor market which lowers wages or prevents their rise. It is possible because of his lower standards of living and because his traditions and mores do not operate to exclude women and children from hard labor and do not call for a period of education for the young, for the immigrant to accept a wage that drives native workmen and partly Americanized immigrants of the older stock out of competition. The effect is to make certain callings disreputable, virtually caste callings, and to prevent the rise of wages and standards in others.

The lower standard of living expresses itself as well in the distribution of economic goods. The chronic excess of the labor supply, resulting from the size of the immigration, inhibits growth toward an industrial democracy, presumably the goal toward which an intelligent people should strive. The low wage and the conditions of work enable the capitalist to divert to profits all but a pittance in the distribution of the products of many industries. The massing of wealth in the hands of a few men and a small class, however desirable it may be from the point of view of these men or from the point of view of the most efficient production, is an unfortunate tendency when viewed from the point of view of the population.

The Question of Restriction and Selection.—The question of the restriction of immigration inevitably

arises and, in view of the large number of incomers at the present time and the prospects of greater numbers in the future, it is an important question of immediate interest.[6] The effects on this country whether for good or ill will be permanent effects. Any complete consideration is out of place here; it involves the whole question of the type of society that it is proposed to build up in America.

If it be desired to maintain the outlook and the possibilities of life among the people that have been the peculiar characteristic of America as compared with European countries, a restriction of immigration from whatever source is very necessary. It is because of the general standard of prosperity of America in comparison with other countries that the fact of immigration exists. The natural resources of America are not inexhaustible; the sources of immigration are inexhaustible.

Unrestricted, immigration will continue so long as there exist social and economic differences between America and the older countries of Europe and Asia. America will either restrict population growth or become so poor that there will no more be a temptation for any man to come.

The resources of America may be used with reckless haste or they may be so conserved as to render conditions of life endurable to succeeding generations. There are considerable bodies of influential men to whom the immediate and full exploitation of the country's natural resources is a matter of first importance regardless of political or social consequences. But in any long-time view the social and public welfare takes precedence over the interests of individuals and smaller groups. It is clearly to the general welfare that the territory and the

[6] The present immigration law limits the annual number of immigrants from European countries to 355,825.

resources of the country be conserved and allowed to maintain the relatively high standard of comfort that has given America her distinctive place and still makes her attractive to other peoples. It would seem a pity that this prosperity should be destroyed, and with it the national ideals, institutions, and character, in order to satisfy the desire of capital for more workers and larger dividends.

This, however, is largely a matter of numbers and as such is aside from the present question of population quality. Of course the destruction of the resources must ultimately affect quality, but the present consideration is of a more direct sort. And on the more direct and immediate question of quality there is ample basis for restrictive action.

The immigrant of the present day displaces the native and the immigrant of an older type. This is in part a substitution of a new type for the unborn children of the Americanized stock. In order to justify the continued admission of immigrants on a basis of quality of the population it is necessary to show that the new type is not alone the equal of the type displaced; it is necessary to show that it is a better one. If the new type is not superior to the old there is nothing gained by the substitution. On the ground, therefore, of the substantial equality of racial groups there is ample ground for restriction of immigration, for in culture and culture traditions the immigrant is obviously and admittedly inferior to the present population. Consequently he must needs be inherently superior to justify his introduction and the consequent lowering of the standards of life of the present group. The profound disorganization endured by the social group, the lowering of its cultural standards, the spreading out of the whole social process, and the retardation of social progress, are things to be avoided unless

there is a counterbalancing good ultimately to come from it.

In restriction there lies also an opportunity to make a positive improvement in the American stock. The wide differences existing between those who would come, and the limited number that may be admitted, provides an opportunity for America to select. If the desire exist to improve the population, a careful selection of the persons to be admitted could be made to operate to that end.

But after all, selection of some sort is unavoidable. America is not unlimited in size and it will presently fill up. With whom it shall fill up and under what conditions are things subject to complete control. The question is whether there shall be deliberate and rational selection or whether the selection shall be left to the operation of natural forces and the manipulation of the selfishly interested and the sentimentally inclined. Some one must and does decide; selection is inevitable; to do nothing is to make a decision. If there be any choice among those who would come, and that there is no one can deny, it would seem that public interest might be better served than by leaving the selection to the politicians, the employers of immigrant labor, and the steamship agents.

Restriction of immigration and selection among the incomers is inevitable. It is only a question as to whether this shall be rationally controlled to desired ends, used to improve the quality of the stock or prevent its deterioration, or be left to chance and the manipulation of selfish and sentimental interests.

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See, also, "Readings," Chapter XII.

CHAPTER XX

THE PROBLEM OF INFERIORITY

Who Are the Inferior.—The problem of population, as a subdivision of sociology, relates exclusively to the number, distribution, and quality of the biological units included in society. It does not include the questions of education and character as psychic phenomena nor those of conduct. The present chapter has to do with those who, because of limited native endowment or the physical effects of social deprivation or misfortune, constitute a burden upon the group and a hindrance to its progress. The number of such individuals varies with the quality of the racial material and with the social practice of the society. The group may be composed of relatively high-grade or relatively low-grade human stock. Its social theory and practice may be such as to increase to the maximum or reduce to the minimum the number of the physically impaired. Within limits, every society has the number and the type of social derelicts its system deserves.

It should be remembered that the discussion runs in terms of persons and not of social classes. Human worth and mental and physical ability are individual characteristics. Persons with congenital defect or low native capacity are distributed through the population with nature's characteristic disregard for the artificial distinctions of wealth and social standing. The percentage of the incapable differs, sometimes differs widely, with different groups and social classes and so may affect the statistical average of the group capacity. But they do not form a

class. Reference to the "inferior classes" may be a convenient means of designating the sum total of the discrete units, but it is a somewhat inaccurate one and open to the further objection that it frequently leads, as we have seen, to an unwarranted identification of the inferior and the economic lower classes of the social group.

The Problem of Inferiority.—The problem of the inferior is the problem of their elimination or, where a complete elimination is not possible, the reduction of their number to the lowest point consistent with the moral customs of the group. It calls for the removal of existing inferiority where the causal conditions are remediable and thus a reduction, on the one hand, of the amount of needless suffering and misery and, on the other hand, of the social burden of dependency. It includes also means for preventing the reappearance of other inferior individuals and types to burden the society and retard its progress. On the physical side is the item of controlling to their ultimate extinction disease, defect, and deficiency so far as they are heritable conditions of the physical organism. On the social side is the matter of preventing potentially normal persons from becoming a burden upon the society because of remediable defects of social organization. The problem is one of the relative and possibly the absolute reduction of the number of defective and poorly endowed and so an advance in the average level of the group capacity.

There is little necessity to argue the desirability of lessening the number of the congenitally defective and inferior: as a general proposition that is perhaps universally admitted. Humanity should reproduce its numbers with intelligence and avoid waste of energy in struggling with needless misery. That it falls within the power of organized society, and is a proper function of the state,

to exercise control over the population type is very generally accepted. Consequently the problem of the biologically inferior is chiefly one of determining the types to be eliminated and the methods of elimination to be employed.

Adventitious and Innate Inferiority.—For the purpose in hand the inferior may be divided, on the basis of the transmissibility of their type of abnormality, into two groups. On the one hand is the larger or smaller number of persons whose status of inferiority is the result of a heritable condition of their ancestral stock. They are congenitally and inherently lacking in certain traits of mind or body so as to render them an actual or a potential burden upon society and so that they will transmit their deficiency to such children as they are allowed to bear. On the other hand, there is in every social group a number of mentally and physically handicapped persons of relatively sound and healthy ancestry. They constitute a present burden upon the group but not a menace to its racial stock for the reason that their type of defect is the result of environmental rather than of hereditary conditions.

Each of these groups may be farther divided on the basis of the first appearance of the condition. An hereditary type of defect may be an organically transmitted characteristic of the family stock which the individual shows as a result of his descent from defective ancestry. Or defect may arise spontaneously, a biological mutation, in families of sound and healthy stock, and the defects thus arising may be definitely transmissible, being in effect the initial point of a new line of hereditary defectives. The handicapped persons of non-defective ancestry and non-transmissible defect may be so from birth or the

defect may arise in later life as the result of environmental circumstance.

Chief among the types of persons with defects so pronounced as to render them a burden upon the society are the mentally handicapped, particularly the insane and the feeble-minded; the physically defective, as epileptic, deaf, blind, deformed, and diseased; and those who are abnormally non-resistant to some form of disease. In each type are those individuals who owe their condition to a defective germ plasm as well as other individuals of a sound and healthy ancestry.

Insanity seems to be a disease of the nervous system due for the most part to specific assignable causes.[1] Heredity in a primary sense seems not to be important; in the direct line insanity is comparatively rare. But it seems likely that some persons possess as a family trait an unstable mind that is liable to break under severe stress. Feeble-mindedness, a generic term to include all grades of imperfect or arrested development existing at birth or from an early age, is a mental condition which, like nausea, headache, temperature, is a symptom of a profound organic disturbance. It may or may not be due to a hereditary cause. Syphilis is probably the largest single causal factor; non-nutrition, as in the case of cretinism, is a cause of some importance; and definite causes are known for a number of other clinical types. The cause is not in all cases well made out and the reappearance

[1] Syphilis, especially in its combination with alcohol, appears to be the major cause. C. L. Carlile, *The Causes of Dependency*, Eugenics and Social Welfare Bulletin No. 15, New York State Board of Charities, pp. 426, 378–395. See, also, F. W. Mott, *Heredity and Eugenics in Relation to Insanity*. A. Newsholme, *The Declining Birth Rate*, pp. 50ff. A. J. Rosanoff and F. I. Orr, *Study of the Heredity of Insanity*.

of feeble-mindedness in successive generations gives rise to the hypothesis of heredity.[2]

Persons suffering from other types of physical handicap, so far as these things render them a burden upon the group, come in for mention in the present connection. The group is very large and of very complex composition; a relatively small part of the population is physically sound. The blind, the deaf, and the epileptic are of some special concern from the point of view of population. There is an occasional reappearance of epilepsy in certain families and the hypothesis of transmission is very generally held.[3] But the importance of heredity appears to have been exaggerated. Blindness and deafness are very often correlated with other defects; the individuals are seldom deficient in one sense only; they tend to be inferior in all. A certain percentage of deaf-mutism appears to be congenital and hereditary.

The continued and intemperate use of intoxicants gives rise to a diseased and weakened condition that marks the person off from the healthy and capable part of the population, lowers his mechanical and intellectual power and cultural worth, and affects adversely the group through creating pathological conditions of family life. Its effects frequently appear in successive generations in the form of defective offspring. But heredity in a primary sense does not enter. Inebriety finds its explanation in part in the physical condition of the person. But the frequent

[2] Many of the writers seem to assume that the hereditary nature of feeble-mindedness has been demonstrated. H. H. Goddard, *Feeble-Mindedness.* C. B. Davenport, *Eugenics,* p. 15. *Heredity and Eugenics.* P. Popenoe and R. H. Johnson, *Applied Eugenics.* Richardson, *The Etiology of Arrested Mental Development,* shows that there have been a number of cases where feeble-minded parents have produced mentally normal children.

[3] Popenoe and Johnson, *Applied Eugenics,* and the eugenic literature generally.

assertion that chronic drunkards owe their condition to heredity and are likely to leave offspring of the same character is misleading. It may be that drunkenness is sometimes a symptom of some physical or mental defect and that the defect may be a heritable thing. In this sense there is no particular objection to the doctrine except the confusion that results from the inaccurate use of terms. But if the statement is meant as an assertion, as sometimes appears to be the case, that drunkenness is somehow in the "germ plasm" and inherited as such, it appears to be wholly without foundation in fact. The explanation of drunkenness is to be sought chiefly in the viewpoint and customs of the social group.

Prostitution, aside from the degradation of personality of the large group of women involved, is a social burden and a menace to public health through the spread of venereal diseases with their manifold evil consequences. The factor of heredity does not enter except in the sense that highly sexed and mentally weak girls more easily drift into an irregular sex life.[4] Conventional sex behavior is the result of training, association, protection, and close environmental example; violation of the code is the result of poverty, ignorance, absence of protection, and habituation through contact and association with a degrading environmental situation.

The pauper and the vagrant are ineffective members of the social group and a burden upon the society. In vagrancy a neuropathic factor seems very frequently to be present but the major element lies doubtless in personal disorganization, the cause of which may lie entirely without the realm of physical defect.[5] Pauperism is an eco-

[4] Percy Gamble Kammerer, *The Unmarried Mother. The Social Evil in Chicago.* A. F. Tredgold, *Mental Deficiency,* 2nd Edition, pp. 450–454.

[5] Amos T. Baker, "Vagrancy," *Mental Hygiene,* 2: 595–604.

nomic condition, not a physical or mental trait, and so of course not heritable as such. The social failure may come from a great variety of causes, some of which may inhere in personality. A low grade of mentality is likely to result in a state of abject want where the person is not closely protected, and it is frequently an important factor in accounting for the economic condition of the pauper. Heredity is of concern in so far as certain conditions of mind or body that make an independent economic life impossible or unlikely, are heritable things. The frequent reappearance of this condition in a family group is to be accounted for chiefly in terms of ignorance, disease, discouragement, neighborhood contempt and abuse, thriftlessness, lack of opportunity, low standards, and the like, which inevitably condition the development of the immature individuals subjected to them. The older idea of a hereditary criminal type is no longer held; criminality is a legal concept. A feeble-minded or neuropathic condition is frequently a factor in delinquency, but criminality itself is not a biological character.[6]

The Transmission of Defect.—It is obvious that a very large part of inferiority is due to the circumstances of life and work and need imply nothing in regard to original native worth. Another part arises as a consequence of accidental and non-predictable variation. The line between the normal and the inferior is an indistinct one and, especially in families close to the border, a very little variation in the way of impairment may result in an individual clearly inferior, just as variation in a more fortunate direction may give an individual of fair intellectual calibre. This factor of universal variation between individuals seems to account for much of the defect and

[6] William Healey, *The Individual Delinquent.* S. A. Queen, *The Passing of the County Jail,* pp. 57ff. and literature there cited.

inferiority arising in families of normal or superior capacity. Speaking in regard to the feeble-minded, Rogers says:[7]

> These defective children seem to be no respecters of family, station, or caste. They come to the homes of the rich and the poor alike. The learned and the illiterate share alike in the misfortune. They are found in the dense population of the cities, amidst the ceaseless noise and smoke of manufacturing, traffic, and transportation, and they are not strangers to the rural homes, where nature revels in sunshine and songs of birds. Every family in the land into which children are liable to be born faces the possibility of having one or more defective ones among the number.

It is also necessary to remember that the appearance of defects, even the same type of defect, in successive generations, does not, in itself, prove anything in regard to the hereditary nature of the defect. The recurring condition may be the result of other things that may or may not be hereditary. A feeble-minded condition due to thyroid defect cannot accurately be spoken of as hereditary. The glandular defect is a heritable thing and successive generations of individuals may be cretin idiots as a result of that defect, but it is the primary glandular and not the secondary neural condition that is transmitted. This fact seems sometimes to be overlooked in assigning heredity as the cause of observed conditions. Poverty, vice, crime, moral defect, and so on through the whole catalogue of individual and social ills, have found individuals ready to pronounce them congenital and transmissible biological traits.[8] Such conditions are hereditary if at all only in a secondary sense of occasionally being the result or accompaniment of some defective mental or physical condition that is hereditary.

But the fact that only a part, and probably a relatively small part, of existing inferiority is explainable in biologi-

[7] *International Conference of Charities and Corrections*, 1893.

[8] The Eugenics Record Office, Cold Springs Harbor, recently circulated a fragment of the genealogy of the Dwight Family under the caption "Inherited Scholarship."

cal terms must not be allowed to conceal the existence nor to minimize the importance of native inferiority. When all allowance has been made for the exaggeration of enthusiasm, a group of cases remains where either the defect is a heritable thing or the hereditary nature of the family stock is such as to be an item of consequence in accounting for the observed condition.

The Increase of the Inferior.—The belief is very general that the defective and the inferior are becoming increasingly numerous in modern society.

Attention has elsewhere been called to the differential nature of the declining birth rate. In the economically prosperous and socially upper classes and in the educated and professional groups the birth rates are low and the families small. Among the poor, the ignorant, and the foreign-born, the birth rates are high and the families large. Such inverse relation between fecundity and social status has been pretty well established, though the degree of correlation varies widely from place to place. If these more prolific groups are, on the average, of a biologically inferior stock, and to the extent that this is so, there tends to be a progressive lowering of the capacity of the population. In view of the differential decline of the modern birth rate, a very considerable body of opinion holds that the American population is in danger of or actually undergoing progressive decline.

This general position involves certain questions of fact for the determination of which accurate data are meagre, and the interpretation of the data involves sources of possible error.

A high birth rate does not always mean a high rate of natural increase. Among the depressed classes—in the slum districts of the cities, among the Negro people, among all groups of low economic status and inferior

health conditions—the death rate, especially of infants and young children, is also high. It is notorious that in this respect the poor suffer out of all proportion to the better circumstanced members of the community. A differential birth rate is thus in part counteracted by a differential death rate. But the difference is not wholly overcome: in spite of the excessive death rate, the mothers of the lower class succeed in rearing more children than do the mothers in other social strata of the population.

But a high rate of natural increase among the lower economic orders does not necessarily mean that there is an excessive increase of the inferior. We have clearly seen that the socially disadvantaged and the inferior are not synonymous. It is the increase of the inferior and not of the poor that is of concern from the point of view of the quality of the population.

When effort is made to separate the demonstrably inferior from the general population, and particularly from the poor and ignorant classes, the birth rate and the rate of natural increase assume a somewhat different aspect. Instead of being high, the birth rate of many types of the inferior is strikingly low. The birth rate among the insane is normally low and the same is true of the epileptic. The birth rate of the lower grades of the feeble-minded is almost zero. In general the markedly inferior individuals of any group show a low birth rate. The segregation of the lower grades leaves little opportunity for increase: the institution types are in nearly all cases debarred.[9] Statements in regard to the great increase of the inferior seem to refer not so much to those who are obviously and demonstrably so as to those of a

[9] It would be of interest and value to know—at present we frequently assume but do not know—the real birth rate of the persons who periodically enter and leave almshouses.

somewhat higher grade, including the morons, and to the depressed and ignorant classes as a whole. Where the reference is to the depressed classes as a whole, there is involved the doubtfully legitimate assumption that there is an appreciable difference in the native worth of different classes after the elimination of the demonstrably inferior.

But even granting a high birth rate of certain types of inferior individuals—the upper levels of the feeble-minded are frequently very prolific—it does not follow that the natural increase of these groups is correspondingly great. The death rate in the lower classes is high. In so far as inferiority is synonymous with lower classes or correlated in any high degree with these classes, it would appear that the death rate of the inferior is also high as compared with the general population. So far as the demonstrably inferior are concerned, the death rate is higher than in the case of the depressed classes as a whole. Defectives of all sorts are notoriously short-lived.

It should stand perhaps as an open question, in the present state of information on the subject, whether or not the genetic increase of the inferior is more rapid than that of other elements of the population. There is of course an increasingly large number of persons being recognized as inferior who would not at an earlier period have been so classified. The more humane care and treatment of defective and unfortunate individuals lengthens their life period and so increases their number. The increasingly complex and artificial conditions of life force more and more weak persons into the dependent groups. It may very well be that more defectives are recognized and treated and the statistics swelled without there being any very marked change in the number of the inferior or in their rate of increase.

A deterioration of the racial stock through the exces-

sive fecundity of defective strains is certainly a possibility and should adequately be guarded against. It has not, however, been demonstrated to be a present reality.

Aside from all question of racial injury through the social selection of inferior strains, it is socially unfortunate that the largest number of children in the society should be produced by the classes least able properly to educate and train them. Regardless of the quality of the stock, the children in the city slums, in the rural backwoods, among the poor and ignorant, have small chance of normal development. They will grow up in ignorance and squalor, acquire the social sentiments and mental attitudes and general traits characteristic of their close environment, and transmit them to an increased number of similarly circumscribed descendants. The difference in opportunity that children in differently circumstanced families have for acquiring the culture tradition makes it unfortunate that the largest number of children should be raised by the poorest families, whatever may be the innate quality of the stock.

Methods of Restricting the Increase of the Inferior.— The method of eliminating the inferior turns on the hereditary nature of the defect. Where the defect is transmissible by heredity no advance is made by care and treatment that does not at the same time operate to prevent propagation. On the other hand, it is fatuous to anticipate advance from measures to prevent propagation when the type of inferiority in question is the result of environmental conditions that continually operate to produce a new supply of the inferior.

Where the inferiority is of a non-heritable type the problem is one of individual care and rehabilitation and the efficient protection of other individuals of the group. Such a condition is in general due either to the action or

the neglect of the social group. Poverty, ignorance, squalor, bad feeding, and the like, have given rise to non-hereditary deterioration which may be removed by improved living conditions that will restore what has been lost.[10] Intelligent social procedure demands that the social machine, the ill-working of which makes the derelicts, be so modified by constructive social measures that other individuals will not be driven into this status. Poverty, pauperism, prostitution, inebriety, criminality, vagrancy, and the like, are symptoms of imperfect social organization and within limits may be eliminated almost at will. It is true that in such groups there are numerous individuals who are over-sexed, low in mentality, or otherwise natively variant and so liable to transmit the conditioning physical trait to their descendants. Such variant stocks should not be allowed to entail their inferiority upon coming generations. But even their elimination, without changing other causal factors, would not mean the elimination of the type. For example, to eliminate all women of low mentality from the ranks of the prostitution army might not seriously lessen the number of prostitutes though it would raise the mental level and so the attractiveness of the group.

Where the defect is a heritable condition, the inferior present a double problem. They are not alone a present burden, they are a menace to the future welfare of the group. Like the preceding groups they require training, direction, guardianship, and possibly institutional care and treatment. But in addition there exists the problem of preventing their propagation and so the transmission of their defective bodies and minds to miserable descendants. The methods fall into two groups, coercive and non-coercive.

[10] Compare Newsholme, *The Declining Birth Rate*, p. 48.

Non-coercive methods are chiefly matters of education and enlightenment. Whatever danger may inhere in the too rapid multiplication of the economically and culturally lower classes will tend to disappear with their enlightenment. The solution of their high birth rate seems to lie in the elevation of their standards of life. A knowledge of the consequences to the offspring of the marriage of defective individuals would lead many persons with heritable defects to refrain from marriage, or to refrain from giving birth to children if marriage be not avoided.

Numerous coercive measures for restricting the multiplication of the inferior have been proposed and advocated and in some cases put in operation. Execution is the most immediately effective way but is one not generally falling within the mores of the group. It is occasionally employed as in the case of obviously defective babies and bed-ridden institution patients, but usually in a negative way and without popular knowledge or approval. Castration has been proposed and advocated, but sterilization by other means is now more usually employed. Fifteen American states have passed laws, in general not enforced and in five states declared unconstitutional, providing for the sterilization of certain types of defectives.[11] This is a thing that needs to be intelligently treated by society: the advocacy of it in the case of criminals, drunkards, and others whose condition is not a hereditary one has greatly injured its spread and popularity by arousing justified opposition. Some restriction on marriage is very generally in force and should be made to apply to more types. At present the chief restrictions are in regard to certain near relatives and between members of divergent racial

[11] H. H. Laughlin, *Social Hygiene*, Oct., 1920.
J. S. Smith, "Marriage, Sterilization, and Commitment Laws," *Jour. Crim. Law*, Sept., 1914.

groups. That a society should permit the marriage of the defective and the diseased and the church preside over the unions is an evidence of how little intelligent society is in regard to matters of population. The segregation of hereditary defectives in institutions and colonies is very generally advocated and in part employed for certain types of defectives. Its ineffectiveness lies chiefly in the fact that only pronounced cases of defect are thus far provided for, and these are not the ones who propagate their numbers with dangerous rapidity.

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CHAPTER XXI

THE PROBLEM OF SUPERIORITY

Who Are the Superior.—As a result of individual variation, there are in every social group, persons marked by defectiveness and social inefficiency, others of average capacity and capable only of mediocre attainment, and still others of outstanding ability and fitted to develop exceptional social worth. Those persons showing such extreme variation in the direction of defect as to be a burden upon the society and a hindrance to social progress we have designated as the inferior. In a similar way we designate as superior those individuals in the population who are peculiarly and fortunately endowed; those individuals capable of contributing something of more or less consequence to the civilization of the group.

The persons of superior capacity constitute but a fraction of any population. The actual number is not a thing capable of precise determination; the criteria are too vague and the difficulty of their application too great. The line between the average and the superior, like that between the average and the inferior, may be, and in fact frequently is, so drawn as to exclude more or less as suits the purpose, information, or temperament of the classifier. But they must of necessity constitute a minor part of the population, otherwise they would cease to be divergent: their standard would constitute the norm, other groups would be divergent, and there would be a recognized shifting of the criterion of normality.

The Hereditary Nature of Superiority.—The native inequality among individuals seems in some part to be

due to the existence of like differences in their ancestry. Here as elsewhere like tends to produce like. The children of gifted people show superior capacity in a larger proportion of cases than do the children of less gifted parentage. This must not be taken to mean that all children of a highly gifted pair will show ability above the average, but that the chances of a gifted child coming from such ancestry is somewhat above the average. The burden of evidence goes to show that there are family stocks of unusual ability in every society as well as strains of inferior native capacity.

As has already been emphasized, it is very easy and very usual in this connection to fall into fundamental error: achievement is frequently confused with or used as a measure of ability. But success, it cannot be too often insisted, is an artificial thing; it depends upon opportunity and consequently is no satisfactory criterion of ability. The environmental factors have an influence in the realization of the possibilities that are provided by natural superiorities far greater than is popularly realized and, in the absence of equal opportunity and similar environmental circumstances, it is not possible to accept the degree of achievement as a measure of native ability.[1] The situation in which the child develops may be such as to emphasize or to suppress natural superiorities; it may be so unfavorable as to suppress even the highest order of genius.

Moreover, by no means all the individuals of genius and talent are of superior ancestry. Nor do superior indi-

[1] It is no undue disparagement of the importance of heredity to recognize that both heredity and social environment play indispensable rôles in the determination of individual worth and achievement; and that any human infant, if it could survive to maturity without any social contacts, would remain without language, and lacking in those results of the long social past of mankind without which nothing that we should recognize as "personality" would be possible. Ed.

viduals leave exceptionally gifted offspring with sufficient regularity to justify any dogmatic assertions concerning the hereditary nature of talent. Examination of biographical data seems to show a large percentage of natively superior individuals to have been the first and the last of the superior line, though a series of mediocre individuals frequently shine in the reflected light of ancestral achievement, and superiority is frequently asserted to exist in the normally stupid ancestry of talented men because the theory assumes that it must be there. A large part of talent, certainly, is the result of the spontaneous and non-heritable variation that is universal in living forms.

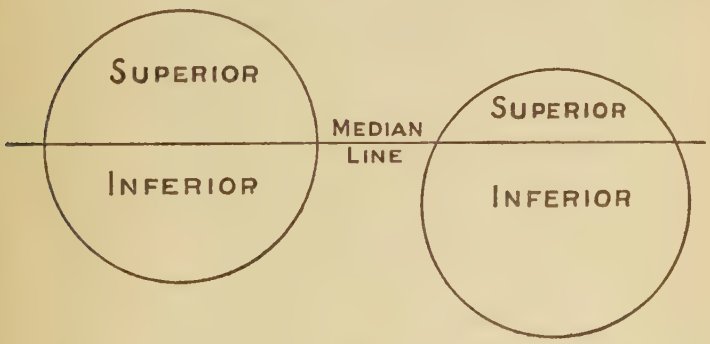
The recognition of these facts is not intended to put in question nor to minimize the importance of peculiarly and fortunately endowed family stocks. However much an artificial organization of society may hinder classification along such lines, or family superiority be confused with social status or with the conventional success of mediocrity, there is a wide variation in family stocks. The more nearly uniform and equal the conditions of social opportunity, the more distinctly do the native differences show.

The Problem of the Superior.—The great mass of every human population is composed of persons who do not rise far above nor fall much below the human average. The normal level of human capacity changes but little and slowly if at all. The capacity of the race seems to be fairly well fixed. There seems to be no essential difference in the biological traits and capacities of savage and civilized man, nor between civilized man of the twentieth century and the barbarian ancestors at the beginning of the historic era. The fundamental base lines of human

nature and human capacity seem not to have undergone any material change in a period of twenty thousand years.

If, and to the extent that, populations differ in native capacity, it would seem to be chiefly the result of varying ratios between the superior, the mediocre, and the inferior elements of their composition. One group may contain an excessively high proportion of inferior and stupid members and a paucity of the talented and superior. Another may contain an unusually high proportion of exceptionally capable men with a minimum number of the lower order. The average capacity of the two groups will differ though the normal or mediocre grade of intelligence in the two will not be unlike.

The comparison between a very superior population and one that is very inferior may be graphically illustrated thus:



The possibility and the likelihood of social invention and cultural advance is rather heavily weighted in favor of the group with a high percentage of talented men. The larger the number of such men, produced and recognized, the greater the possibility of cultural advance. The presence of individuals of outstanding ability has often

been the item that brought success and survival in times of group crises. The scarcity of such talent, or the refusal of the group to use it, has, in times of severe crisis, resulted in the failure and the extinction of other human groups. If the production of elements of a superior type equals or exceeds the rate at which the inferior and the mediocre are produced, the average capacity, and hence the cultural possibility, of the group will improve. If the number of the highly capable decreases, in relation to other elements of the population, the average capacity of the group will be lowered and its possibility of cultural advance correspondingly diminished.

The problem of the superior is, so far as advance in civilization is the human and social desire, the absolute and relative increase in their number.

The problem of the superior is frequently conceived to be of a very special importance at the present time. The increasing pace and complexity of civilized life makes new and unusual demands upon individuals and social groups and creates a need for more leadership and for leadership of a higher type. The supply of talent is not adequate to meet the need. Moreover, in the presence of the increasing social need, there is believed to be a relative decline in the number of superior men. Owing to the differential nature of the declining birth rate the ratio of superior intellects to the inferior and the mediocre is believed to be diminishing: there is an increasing paucity of talent in the presence of increasing need for social leadership. Many students of social phenomena are in consequence seriously distressed concerning the permanence of human culture.

The Eugenic Program and the Problem of the Superior.—Changes in the quality and average capacity of the stock depend upon the heritable quality of the

people who raise the most children. It is only possible to raise the average of the social group by getting the superior elements to contribute more than a proportionate share to each succeeding generation. For the race to maintain its present level, it is necessary for the superior stocks to increase at a rate at least equal to that of other elements of the population. If the fecundity of the superior stocks is less than that of others, the race is perpetuated by the increase of the inferior folk and its quality undergoes a progressive decline. From the biological point of view, the problem of the superior is the problem of their fecundity: the problem of increasing the birth rate of the superior family strains.

Suggestions looking to this end have been great in number and varied in character. There is no occasion to deal with them here.[2] On the positive side they may roughly be grouped into two classes: those which imply legislative action designed to control, directly or indirectly, marriage and the birth rate and those which imply the use of indirect and educative action. Among the first are such things as the endowment of motherhood, state aid to children, taxation on the childless and the unmarried, suppression of knowledge concerning means to family limitation, and provisions for a comfortable pregnancy and a safe and painless parturition. The indirect means suggested or advocated are numerous but they all propose to operate through a popular sentiment favorable to tolerably large families among the well endowed.[3] To create this popular state of mind it is proposed that there be a

[2] Most of the books on Eugenics discuss the proposals in detail. See, for example, Popenoe and Johnson, *Applied Eugenics*.

[3] "What is necessary is to make it deeply and widely felt that it is both immoral and unpatriotic for couples sound in mind and body to unduly limit the size of their families." Leonard Darwin, Address before the International Congress of Eugenics, New York, September 24, 1921. Press reports.

social condemnation of excessively restricted families, an idealization of marriage and the family life, a depicting of celibacy and childlessness as dishonorable, proclaiming marriage as a healthier and happier state than a life of celibacy, preaching child-rearing as a patriotic duty, fostering a popular sentiment concerning the sacredness of the home, holding up the husband and father as particularly worthy of honor, religious and moral preaching designed to make superior people desire earlier marriages and more children, making eugenics a religion, improving the opportunities for sexual selection in marriage, and other similar suggestions.

The biological doctrine involves certain facts and assumptions that must be noted, since the tenability of the general theory, as well as the wisdom of much of the practical eugenic program, turns upon the degree of truth and error inherent in the basic assumptions. The facts do not appear, in all cases, to justify the conclusions drawn from them. And certain of the basic assumptions on which the doctrine rests appear to be untenable.

The problem of the superior, in its biological statement, involves the assumption that the differential birth rate is a new and recent phenomenon. This is only partly true; a similar difference between the prosperous and the poor in the size of families seems always to have existed.[4] Under improved conditions of life families seem always and everywhere to have become smaller and the present differs from other times, when at all, only in degree.

In this statement of the problem there is also frequently a begging of the fundamental question as to

[4] See, *e. g.*, Newsholme and Stevenson, "The Decline in Human Fertility in the United Kingdom and Other Countries as Shown by the Corrected Birth Rate," *Jour. Royal Stat. Society,* 69: 33–97. 40.

who are the superior: the assumption is made, with more or less show of evidence, that the superior are practically identical with the social classes showing a marked decline in the birth rate. This assumption, which was discussed at length in a previous chapter, contains sufficient truth to give it plausibility. There are selective forces making for a high percentage of talent in certain of the classes that show a highly restricted birth rate. But these highly selected classes are small. Some of the groups showing an unduly restricted rate of natural increase are relatively unselected. In others the basis of selection is not such as to be indicative of exceptional personal value. There is need to discount the class bias that so often leads to the tendency to identify the socio-economic with the psycho-physical élite.

The eugenic doctrine also involves the assumption, previously commented upon, that exceptional capacity is a family trait rather than an individual variation. The extent to which this is true is a matter that has not as yet received sufficient scientific investigation.

A still more important confusion of thought results from the frequent failure carefully to distinguish the cultural from the biological concepts involved. Race improvement and race deterioration are physical, biological, concepts; civilization, the progress or decline of culture, is a social concept.[5] Social and cultural and national progress are not matters of biology and not necessarily contingent upon race improvement; a biological improvement in the race is not a prerequisite to social and cultural

[5] There is of course no question that a very great improvement could be made in the existing standard by attention to matters of physical health and mental retardation, removing the deterioration that is environmentally induced, but this would be social and not biological. By making conditions such that the race may measure up more nearly to its possibilities is not to change the capacity of the race.

advance. The chasm that separates European civilization of the twentieth century from that of even a few thousand years ago is not due to any corresponding difference in brain capacity. The long period of a relatively unchanged human capacity in the presence of the varied experiences of the race makes the danger of a biological deterioration of the stock, because of a few decades of differential family increase, appear small indeed. To derive cultural conclusions from biological data, even when the data themselves have been adequately demonstrated, is a procedure of doubtful legitimacy.

Opportunity and the Appearance of the Talented.— To question the adequacy of the conventional eugenic statement of the problem of the superior is not to deny its existence but to emphasize its importance. It is of course highly desirable that any improvement in the racial stock that it is possible to bring about by controlling biological processes should be made, and all reasonable efforts in that direction are to be applauded. To do away with disease and heritable defect, to reduce the number of the congenitally inferior, to stimulate the birth rate of the well-endowed, and, by these and other means, increase the relative proportion of the superior, are things toward which an intelligently self-conscious group should strive.

At the same time it is necessary to remember that the problem of the superior, and the consequent course of human culture, is only in part of the biological order. The relatively restricted families of the more cultured classes is a regrettable population phenomenon quite aside from any biological question involved. The advancement of civilization appears to be chiefly a matter of education and communication. The physical and mental evolution of the race, at least within historic times, has been negligible. The progress of the race has been a cultural one

and it appears that progress in the future must proceed along the same line. If this be true it is unfortunate that the families and classes with the best environment, family tradition, and cultural standards should produce a smaller number of children than the families and classes less happily circumstanced. The traits transmitted by communication are larger in number and of greater social significance than those transmitted biologically. The child develops under the influence of the close environment and, because of his almost indefinitely plastic nature, he is molded by that influence. Just as the English child learns to speak English and the Chinese child Chinese, the child reared in a cultured family develops habits of thought and action as impossible to the child of the poor and ignorant parents of the slum environment as is the English tongue to the Chinese child.

The chances of rapid progress in culture are conditioned on the appearance of men in whom biological and social superiority unite. To increase their number is, therefore, the matter of first importance. Fortunately, the number of such men in a population can to some extent be increased by social means. Variation is universal in living forms, and favorably variant types of men appear in all classes in society. Their existence appears to be far more general in every society than is the opportunity for their emergence or the social disposition to utilize their talents. From the point of view of cultural advance, the greatest need is not so much for an increase in the actual number of biologically or psychophysically superior men as it is for the extension of opportunity that will permit the emergence and utilization of a larger percentage of the talent society produces. Historically and conventionally, European societies have tended to recognize only such talent as is found associated with a white skin, a male sex, and

an economically independent status. Talented individuals are probably about as numerous in the lower classes as elsewhere: they are probably about as general among women as among men;[6] and many anthropologists add, about as usual among the black as among the white.[7] Moreover, these groups that have been in large measure excluded from the cultural tradition compose the bulk of the population and, even if it should prove true that talent is less usual among them—that there is a smaller percentage of superior individuals among the masses, the Negroes, and the women—they would probably show, under more favorable educational conditions, a greater number of talented individuals than would the small sector of society to which it is conventional to look for talent. There is ample reason to believe that a more adequate and rational system of education would discover and give a chance to function to an amount of native ability many times that now able to emerge.[8] In many, perhaps the great majority of, cases the talented person has little chance to show his superiority except in craftsmanship and in a local and personal way. The various class, caste,

[6] Edward L. Thorndike. *Educational Psychology,* briefer course, pp. 345ff. J. McKeen Cattell, "A Statistical Study of Eminent Men," *Pop. Sci. Mo.,* 62, 375ff.

[7] F. Boas, *The Mind of Primitive Man,* pp. 108, 203ff. R. S. Woodworth, "Racial Differences in Mental Traits," *Science,* n. s. 31: 171–186. For the opposite opinion, see Francis Galton, *Hereditary Genius.* For the psychologists who regard racial differences as determining factors in human development, see G. O. Ferguson, *The Psychology of the Negro,* and the literature there cited.

[8] See William James, "Great Men, Great Thoughts, and the Environment," *Atl. Mo.,* 46: 441–459, Note p. 453, where he argues that the conditions making for effective greatness are so complex that the failure to find congenial tasks masks the regularity in the appearance of great men. See, also, J. McKeen Cattell, "Families of American Men of Science," *Pop. Sci. Mo.,* 86: 504–515, where he argues that opportunity is responsible for the appearance of talent, and Lester F. Ward, *Applied Sociology,* especially Chapters VIII, IX, and X.

race, and sex proscriptions are adequate to prevent the emergence of many capable individuals not fortunate in their sex and ancestry.

Certainly talent will not be created by opportunity—no environment can raise a person above the upper level of his inherited possibilities for development—but opportunity is essential if talent is to develop and function. The person is the product of inheritance and environment. One sets the possibilities of development, the other determines the direction and the extent to which the possibilities are to be realized. "Very definite bounds are set to physical and mental attainment, but how few men fathom the depths of inherited potentiality." The improvement of the more prolific classes will increase the number of the superior individuals the society shows. The number of cases of great men who narrowly missed remaining obscure is too great to make plausible the theory that talent finds expression always or usually.

"One shudders to think how narrowly Newton escaped being an unknown farmer, or Faraday an obscure bookbinder, or Pasteur a provincial tanner. In the history of the world there must have been many men of equal native endowments who missed the slender chance which came to these. We form the habit of thinking of great men as having appeared only at long intervals, and yet we know that great crises always discover great men. What does this mean but that the men are ready formed and that it requires only this extra stimulus to call them forth? To most of us heredity is kind—kinder than we know. The possibilities within us are great, but they rarely come to full epiphany."[9]

Viewed in this way, the problem of the superior is the problem of making social conditions such that human possibility will not be, in so large a number of cases, hopelessly handicapped before or immediately after birth. It is then the problem of finding the superior individuals of each generation as they appear and insuring them a

[9] E. D. Conklin, *Heredity and Environment in the Development of Men*, pp. 474–5.

training adequate to develop their capacities. And finally, it is the problem of providing opportunity for the exercise of the talents emerging. A greater number of superior persons may be developed in the population by the simple removal of the conditions that keep superiority latent. Cultural advance may be accelerated as soon as society learns to use more of the intelligence it produces. And measures designed to improve the quality of the racial stock will be better appreciated and more generally heeded as culture deepens and education spreads.

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